VOLUME XLVI NUMBER SIX

THE NATIONAL GEOGRAPHIC MAGAZINE

DECEMBER, 1924

CONTENTS

TWELVE PAGES OF ILLUSTRATIONS IN FULL COLOR

Porto Rico, the Gate of Riches
With 47 Illustrations — JOHN OLIVER LA GORCE

Colorful Porto Rico
12 Illustrations in Natural Color — CHARLES MARTIN

A Char-à-Bancs in Cornwall
With 45 Illustrations — HERBERT COREY

With an Exile in Arctic Siberia
With 31 Illustrations — VLADIMIR M. ZENZINOV

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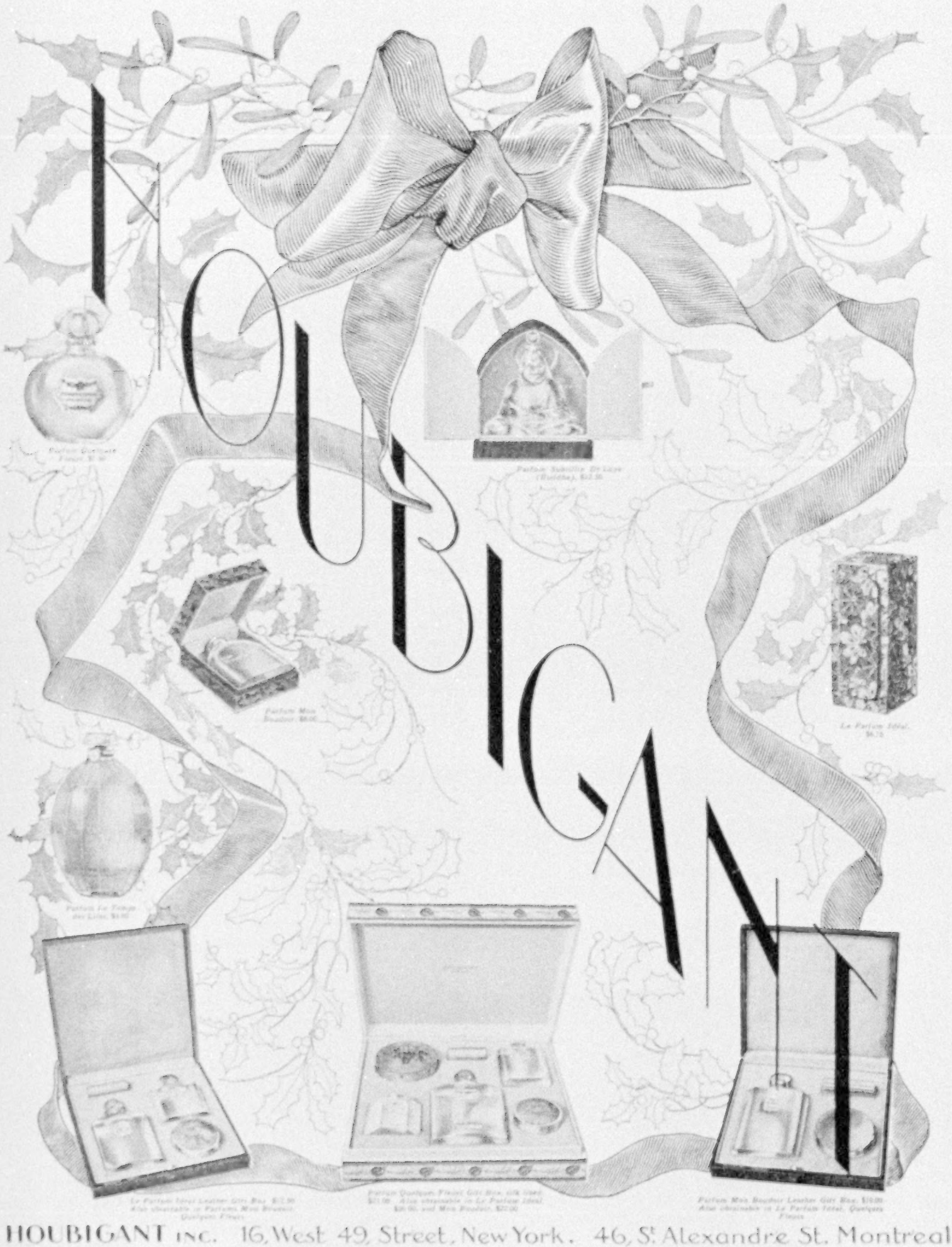

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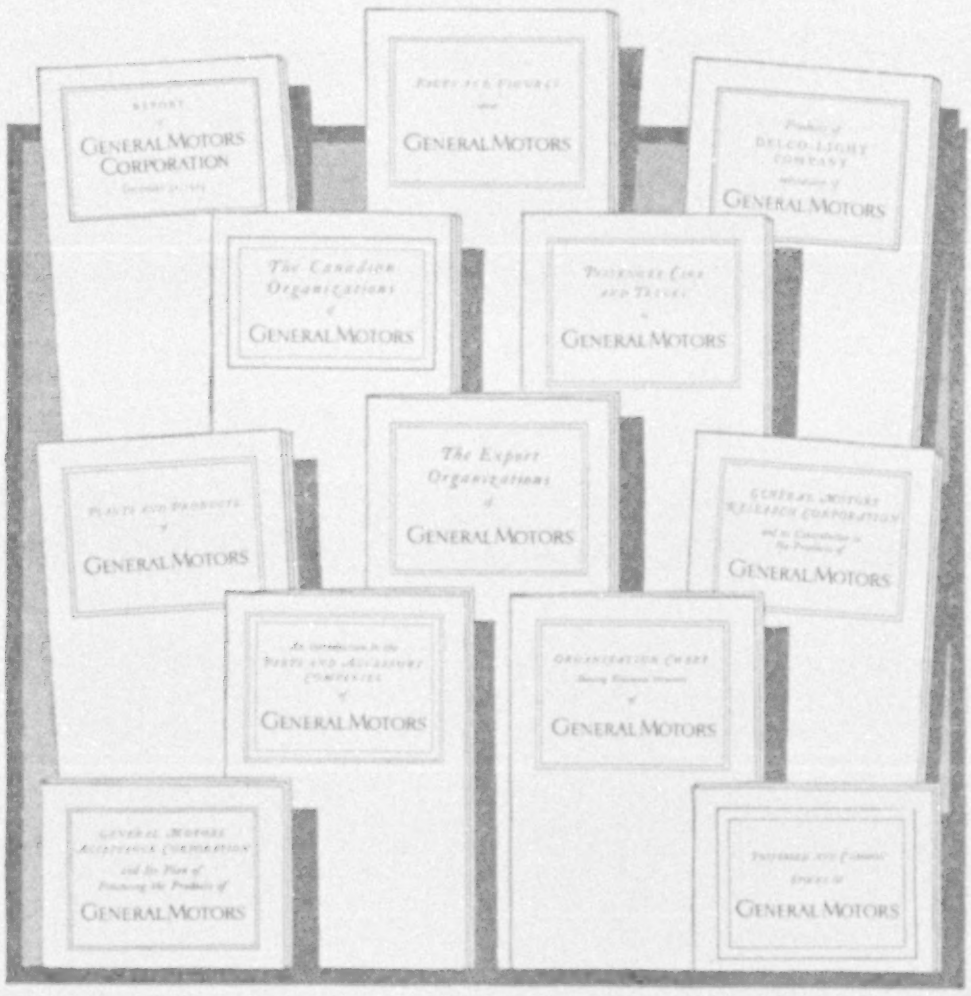

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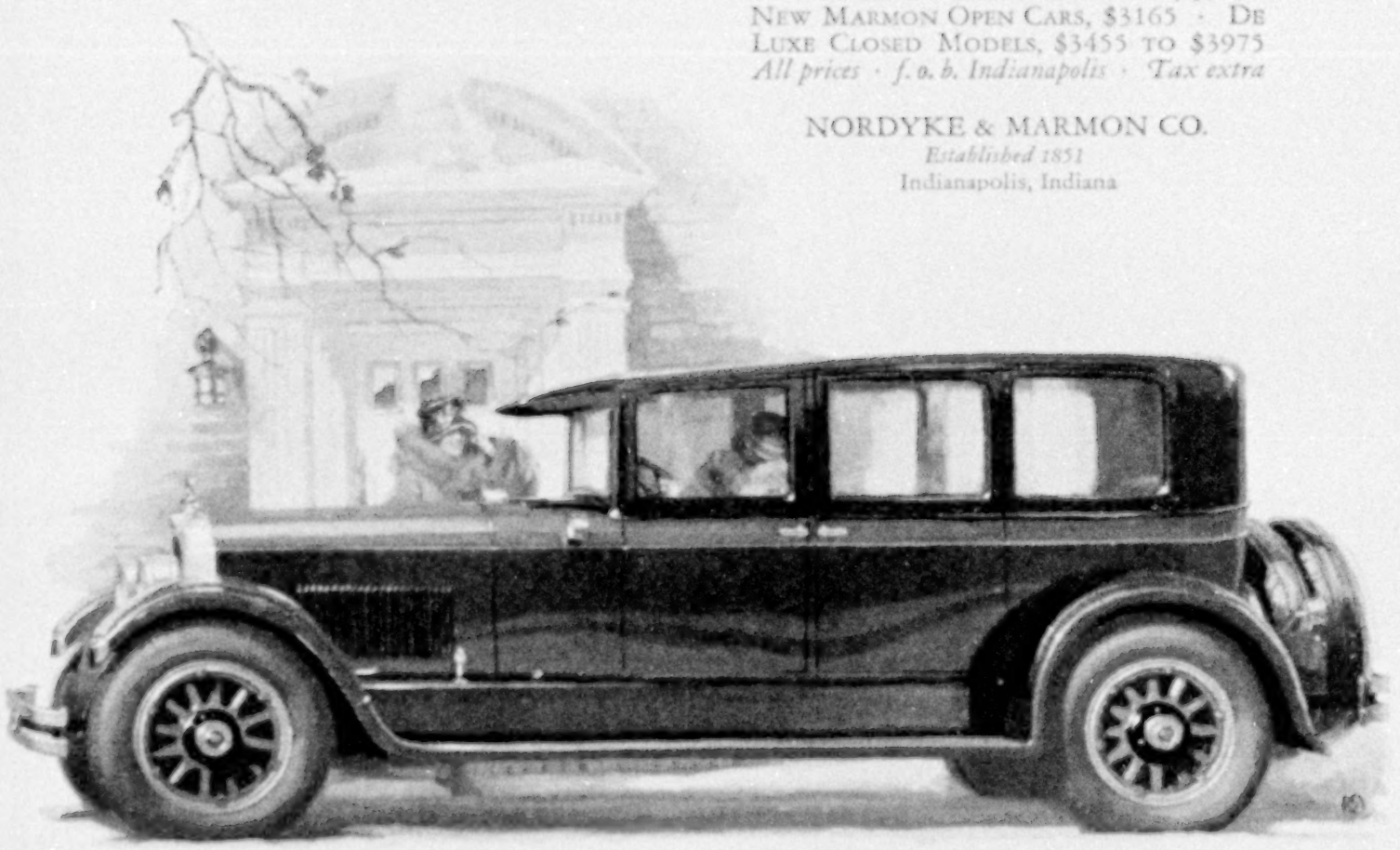

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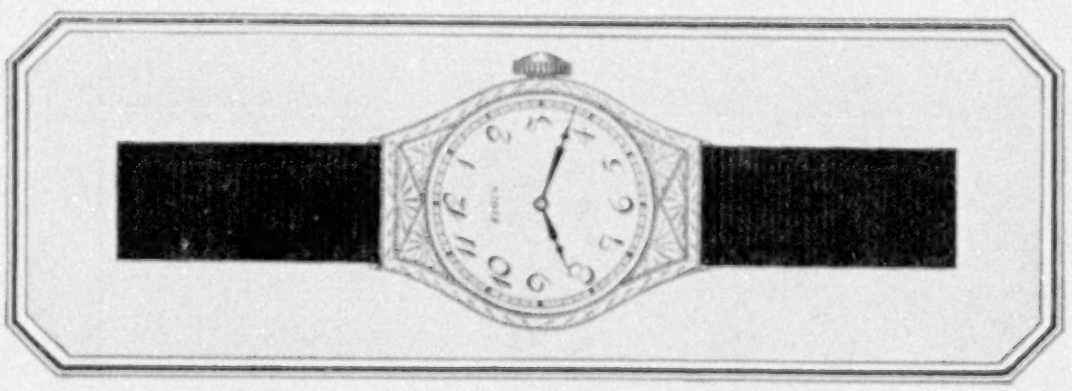

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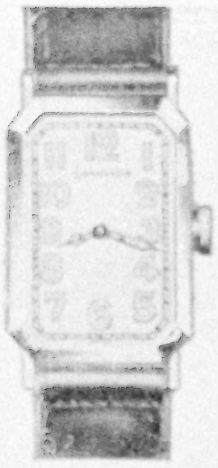

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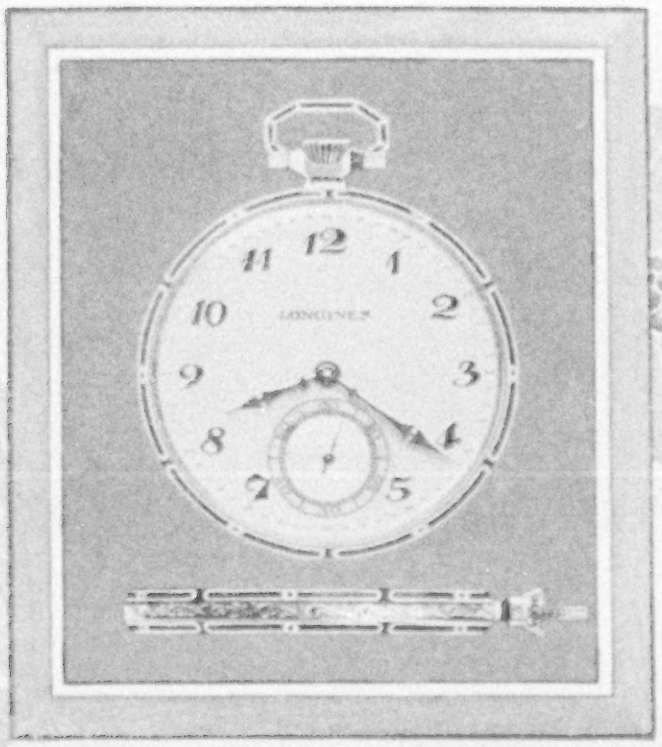

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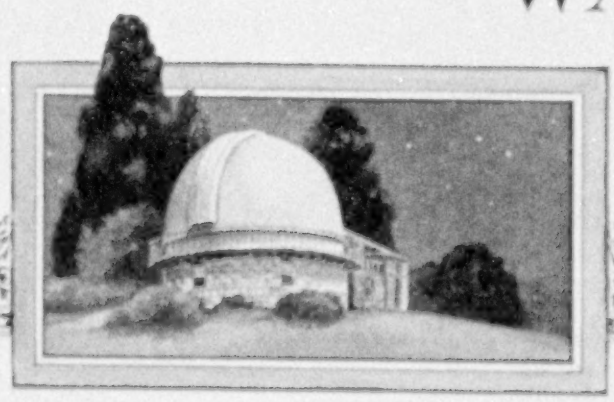

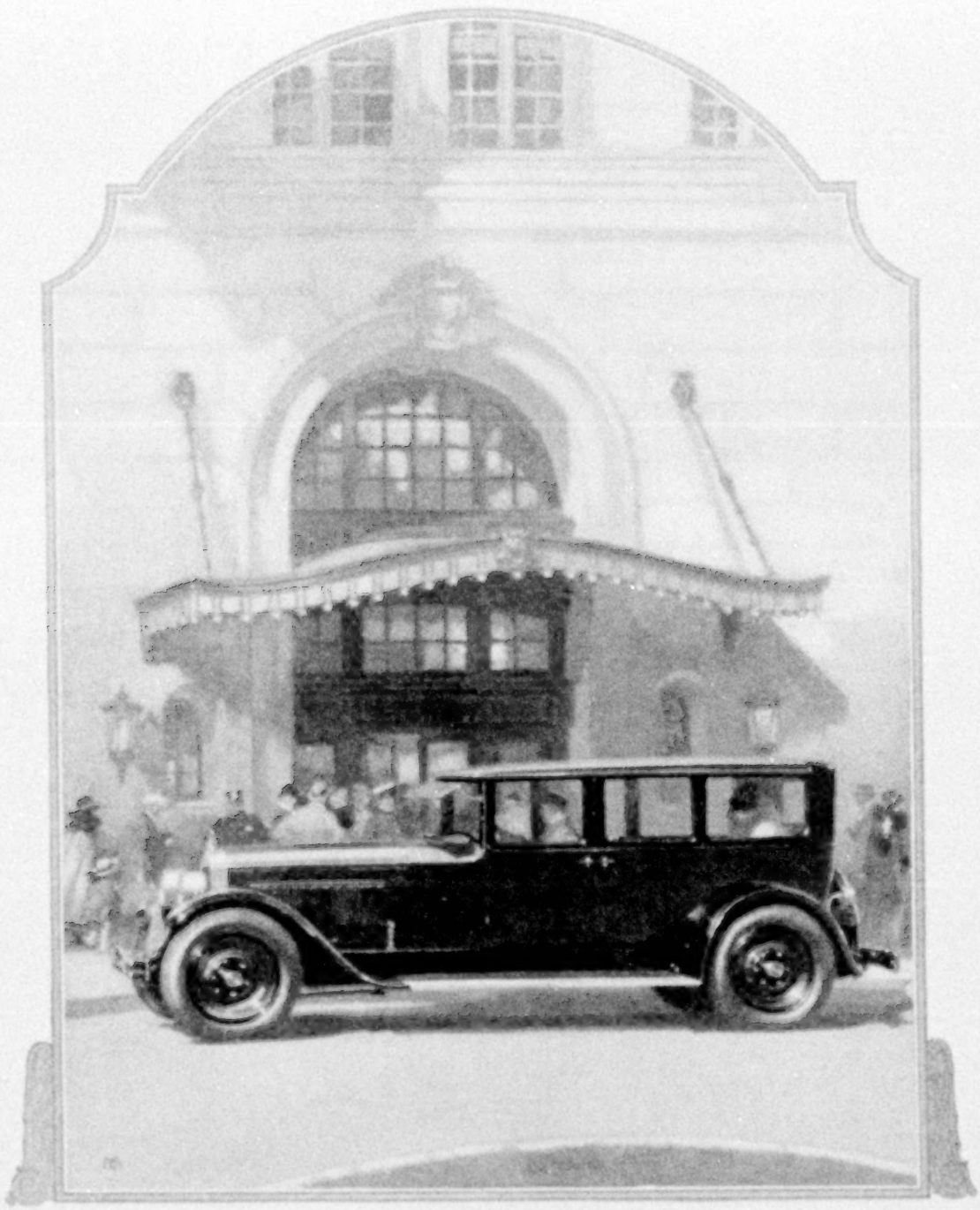

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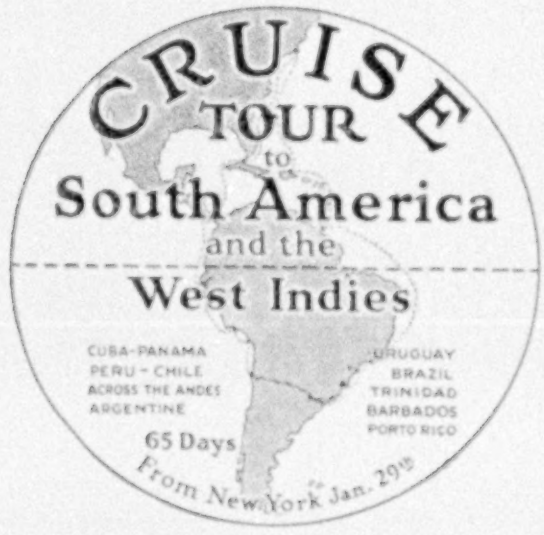

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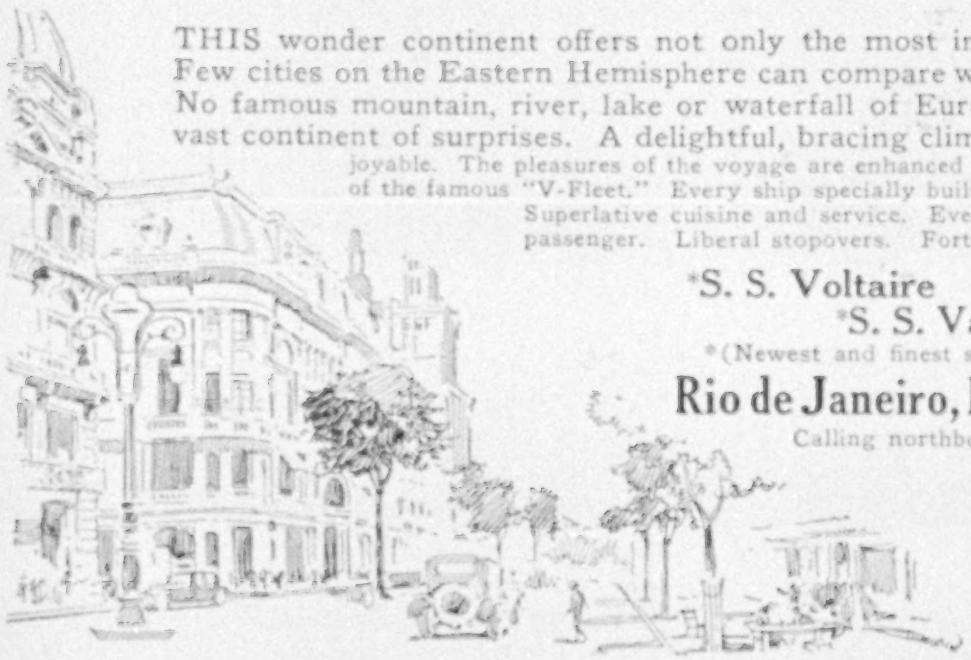

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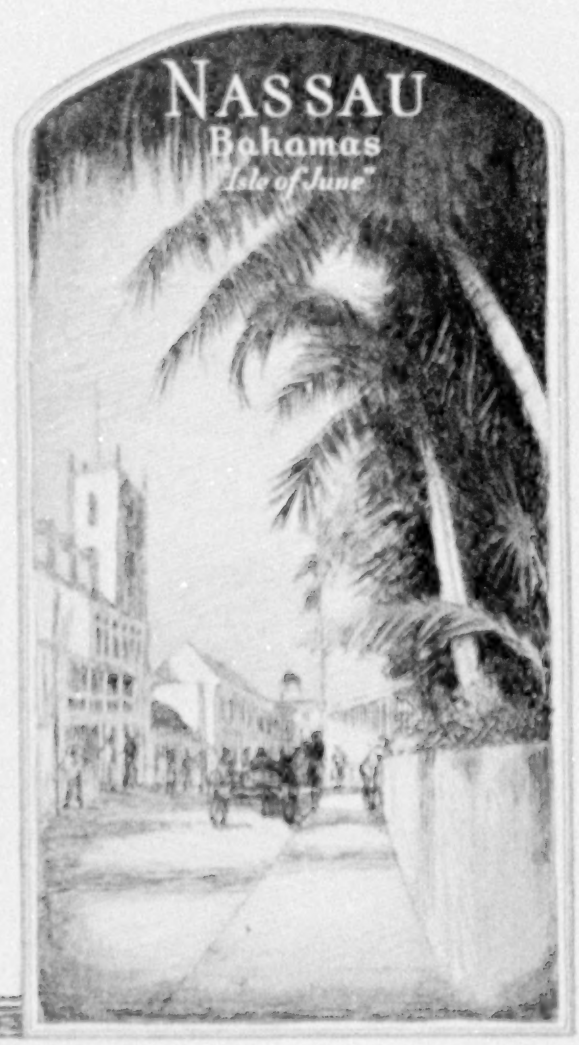

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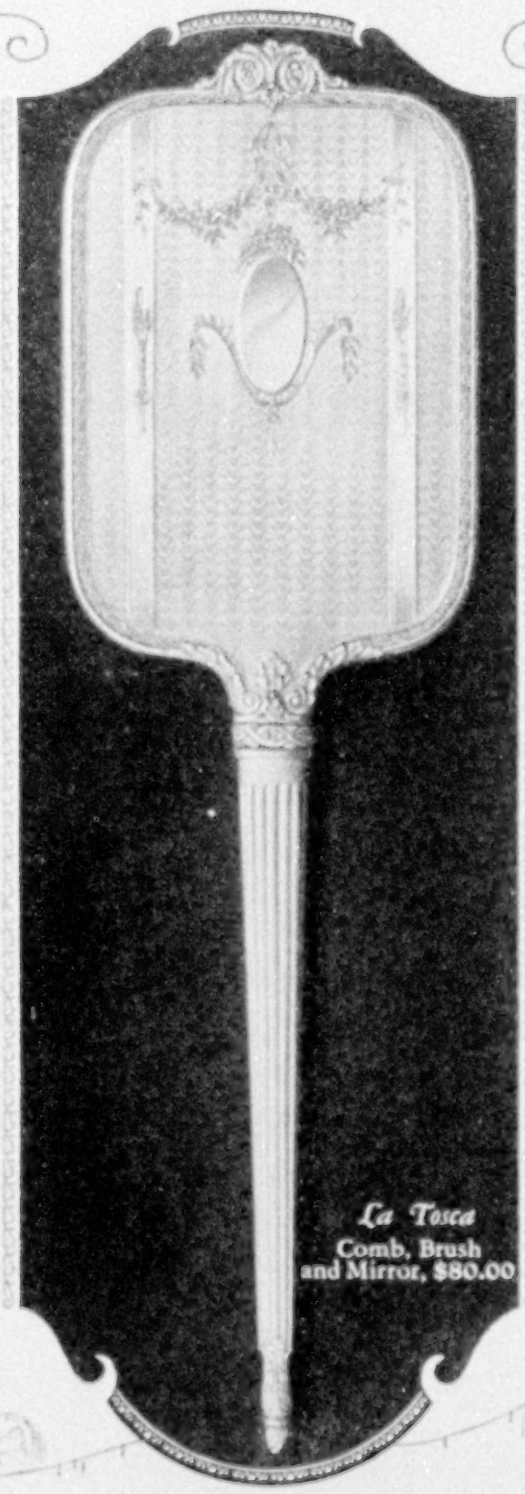

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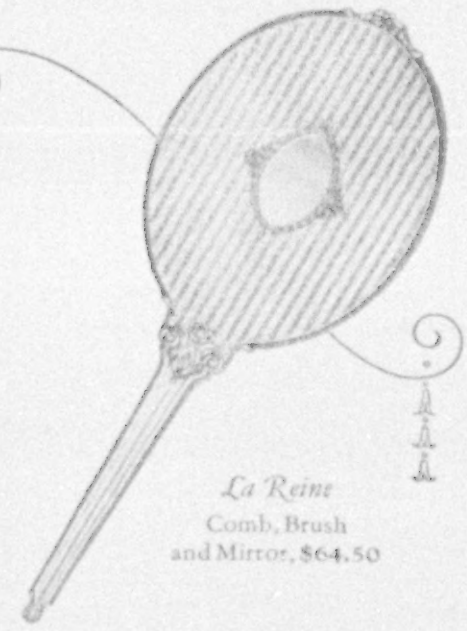

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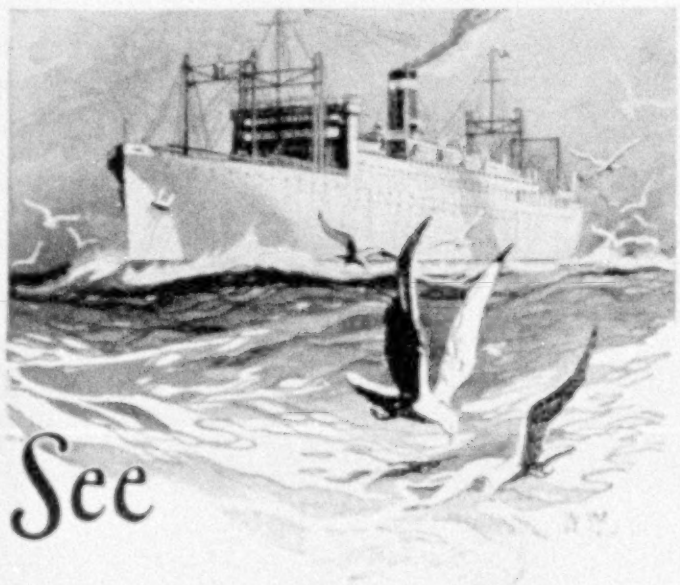

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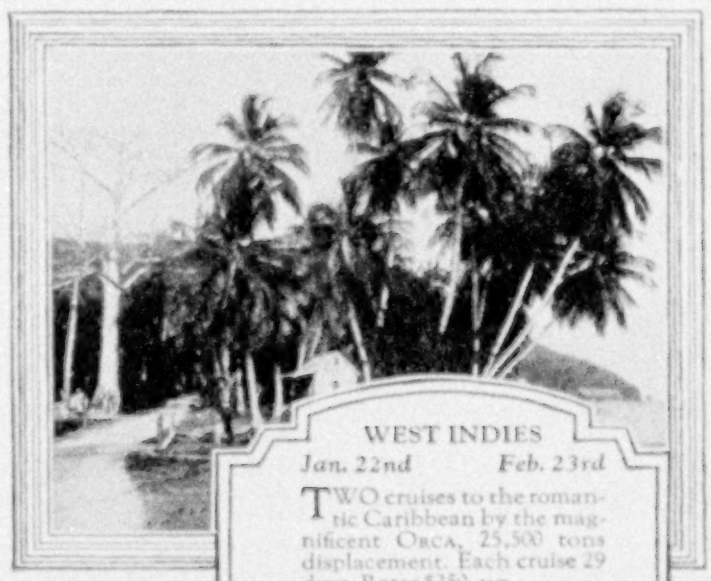

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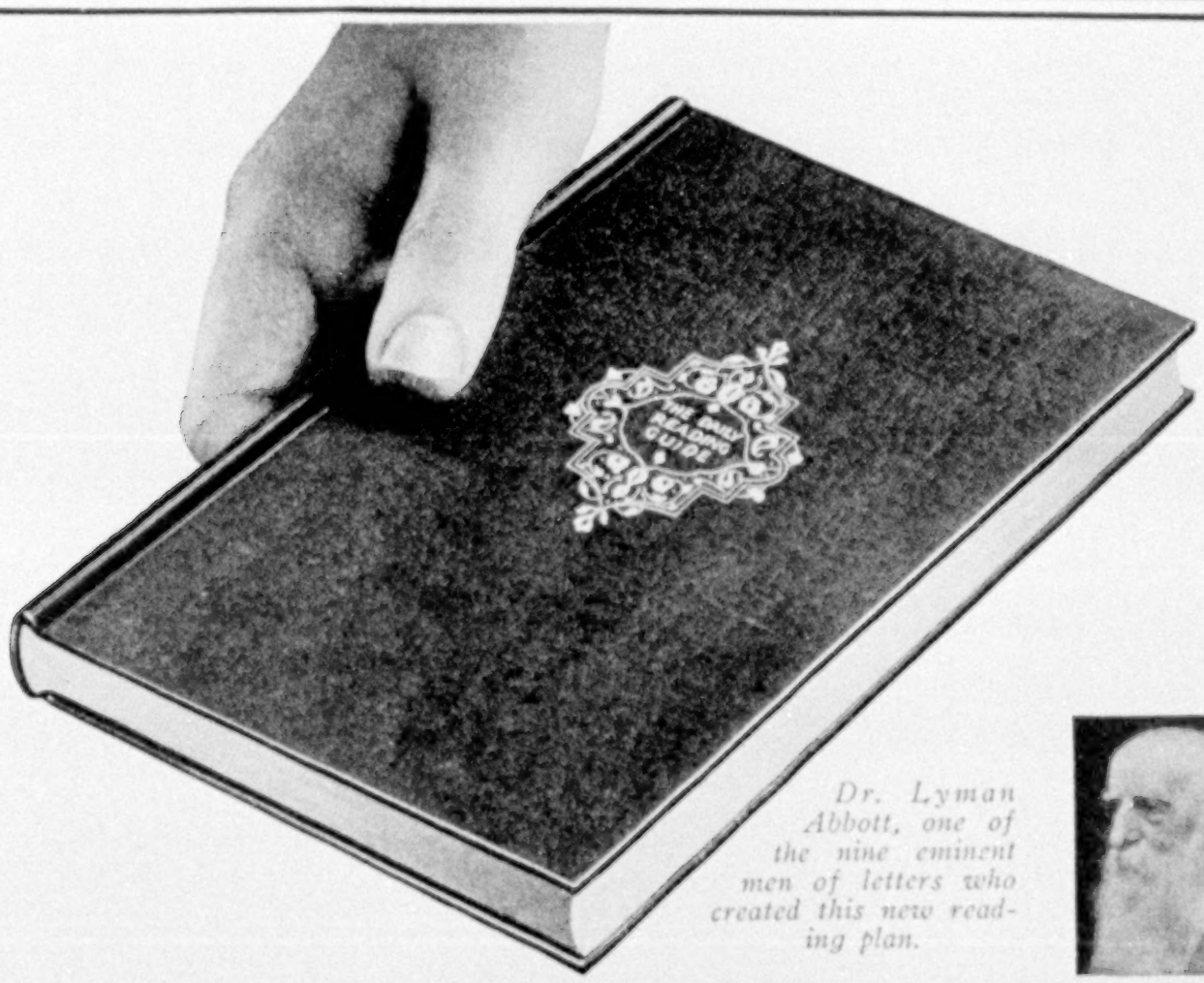

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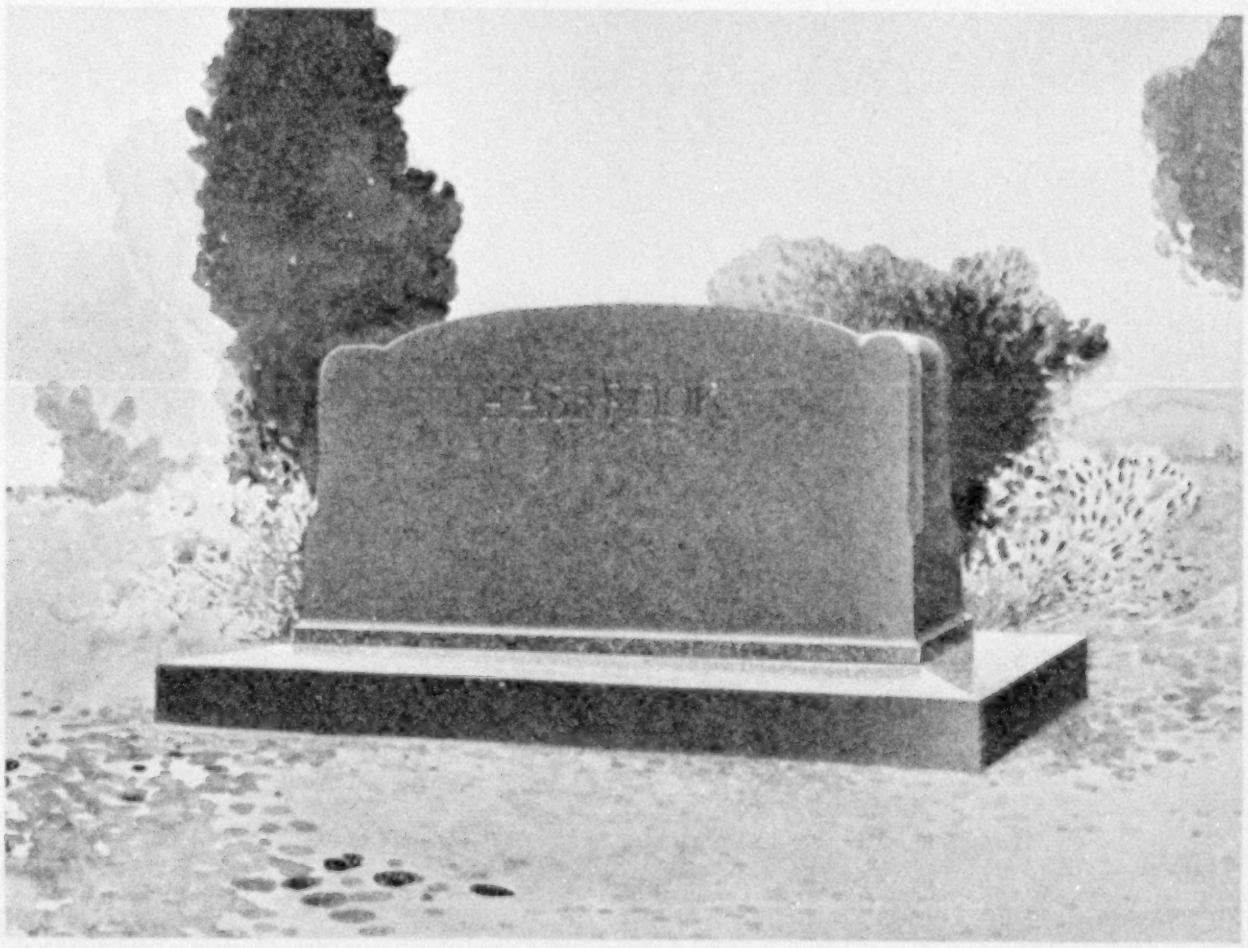

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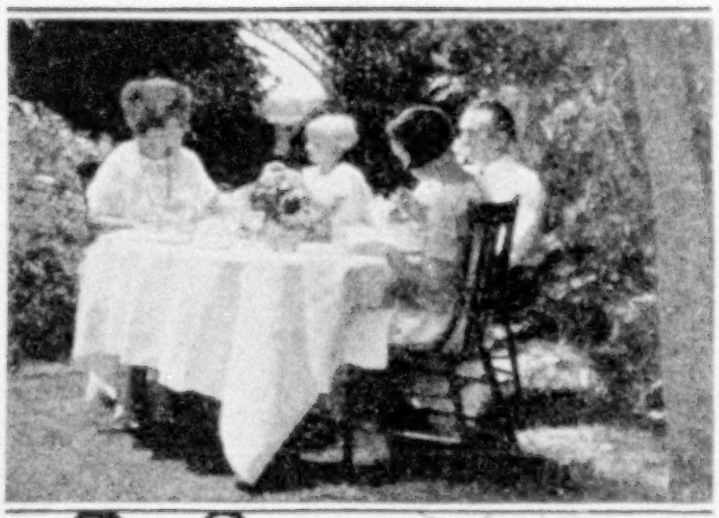

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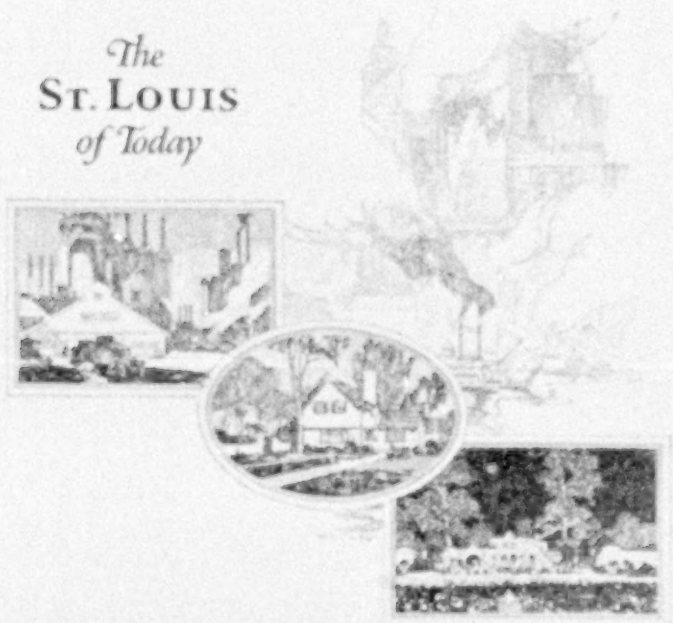

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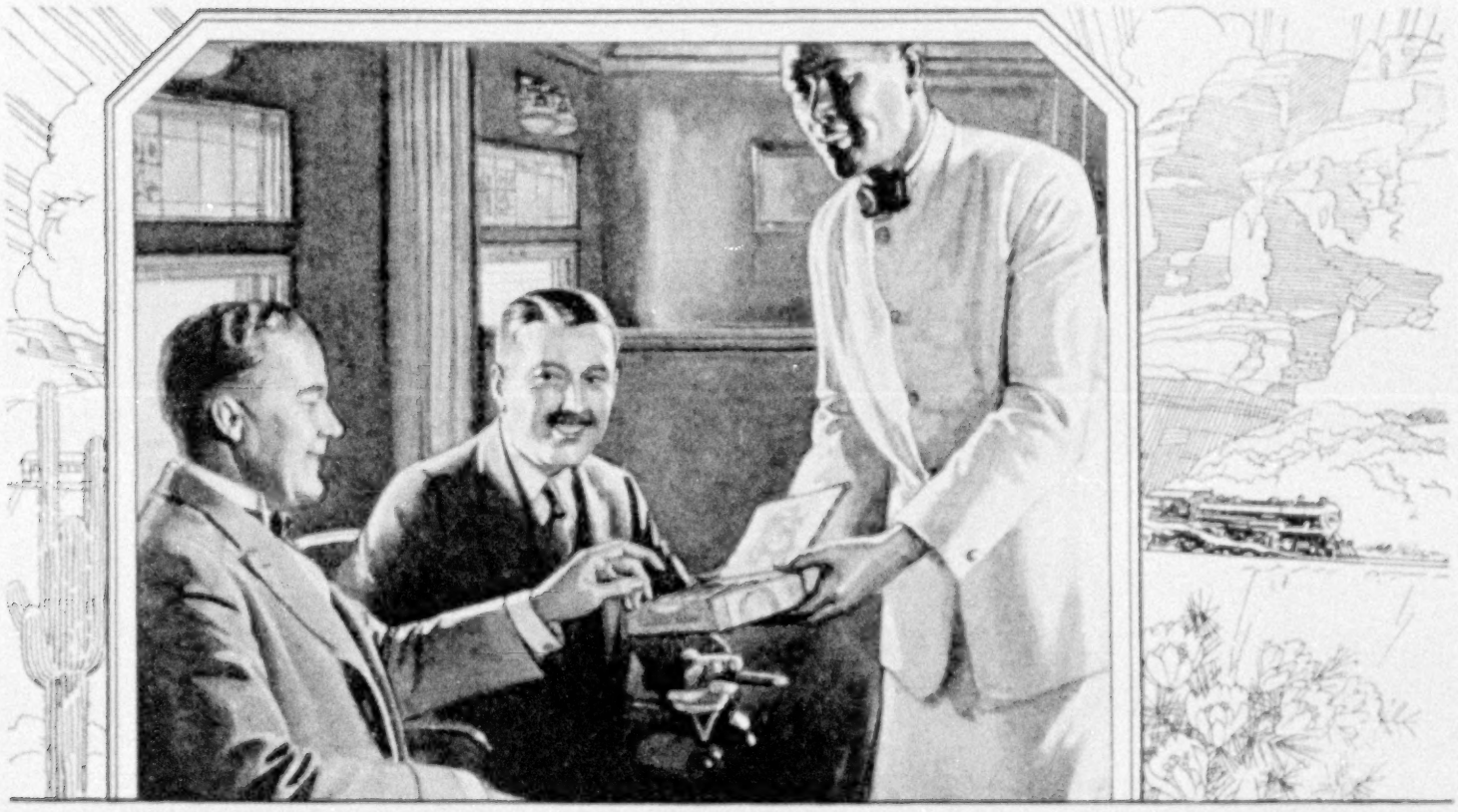

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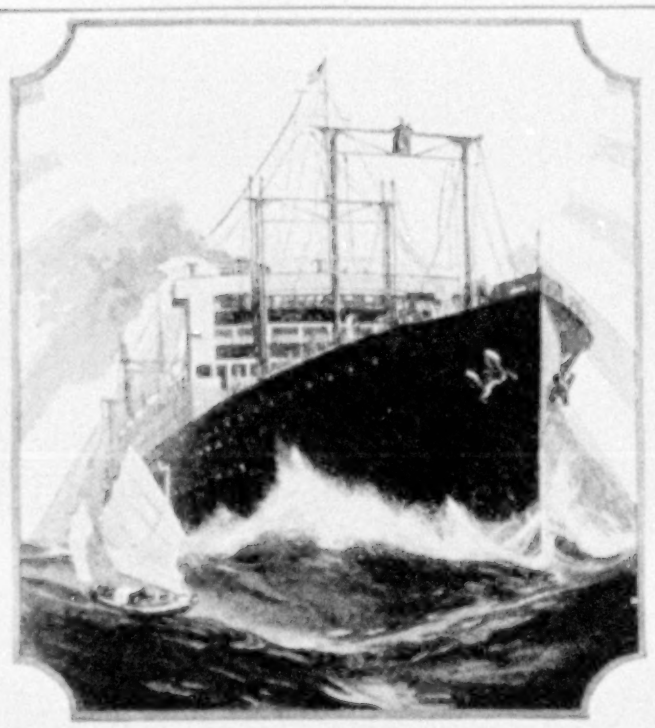

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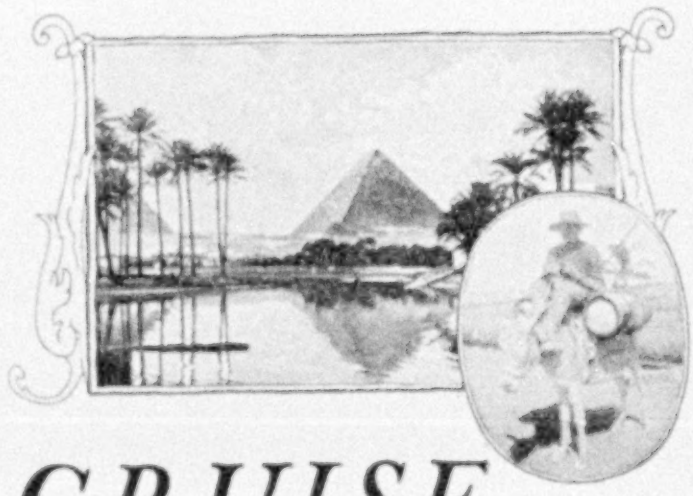

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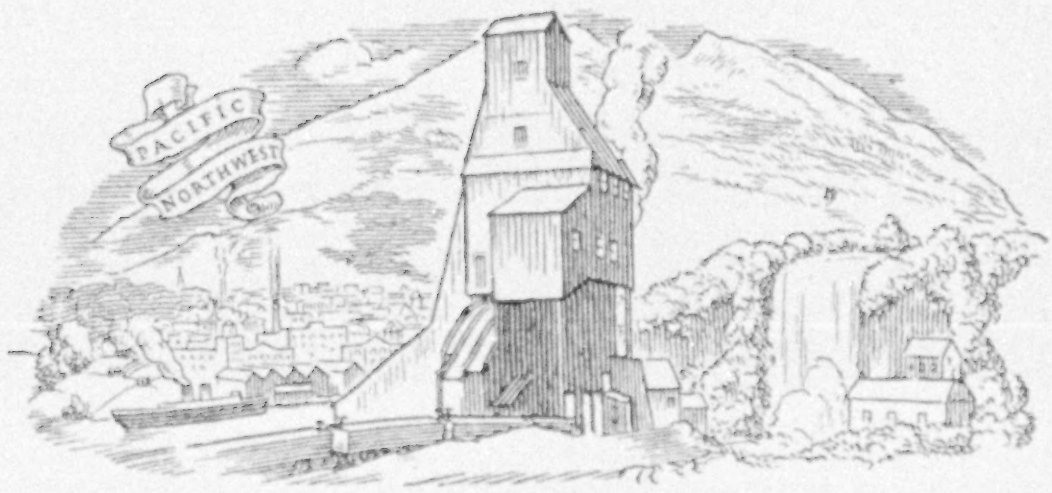

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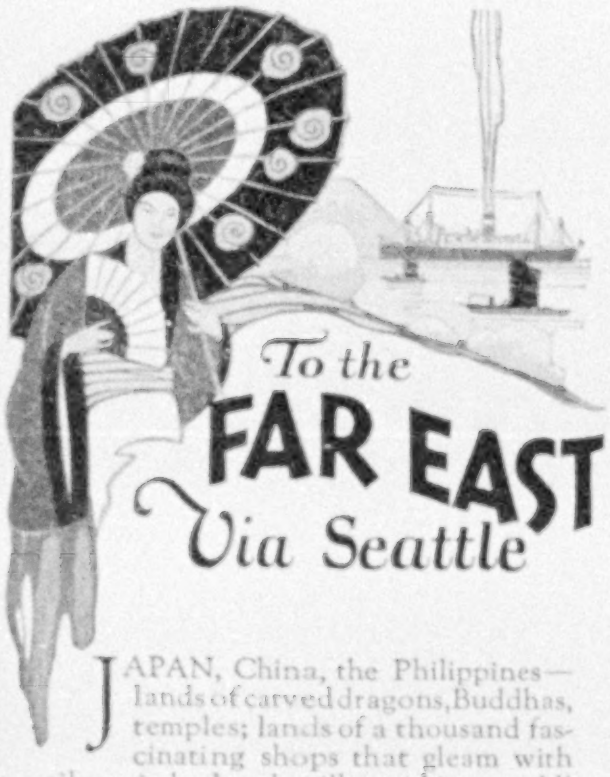

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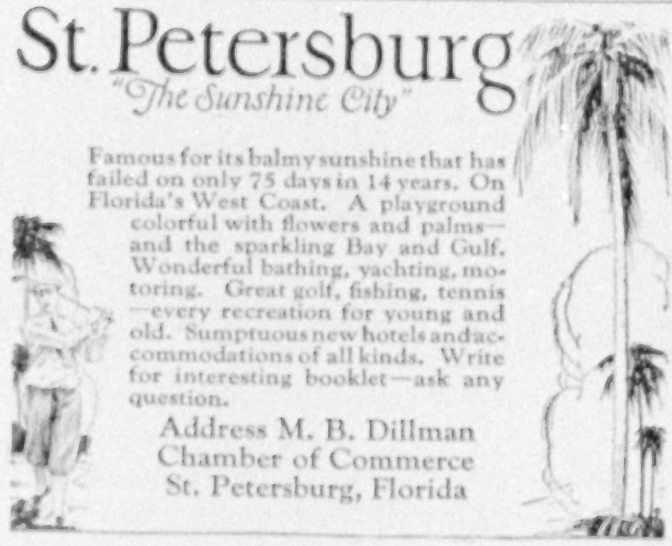
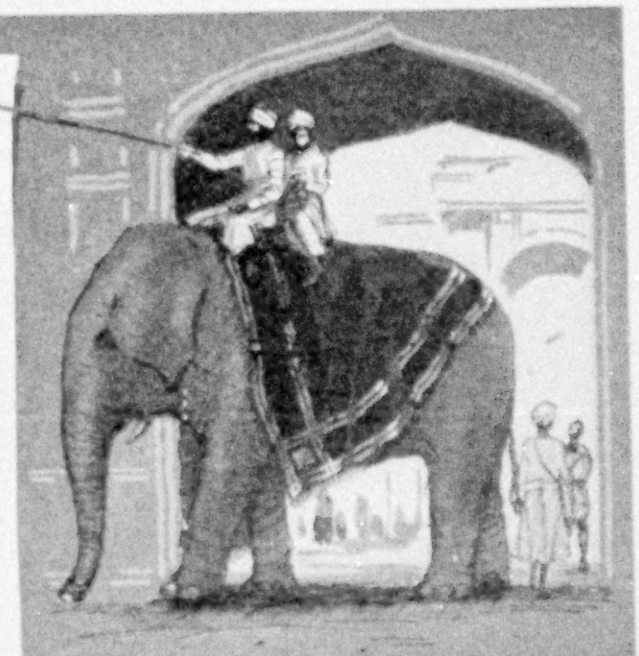


Around *the* World



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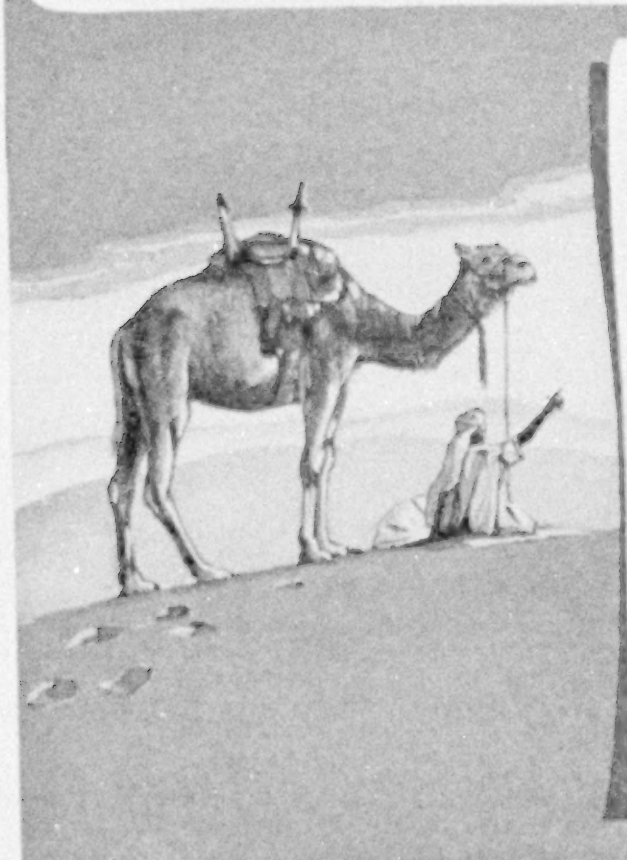

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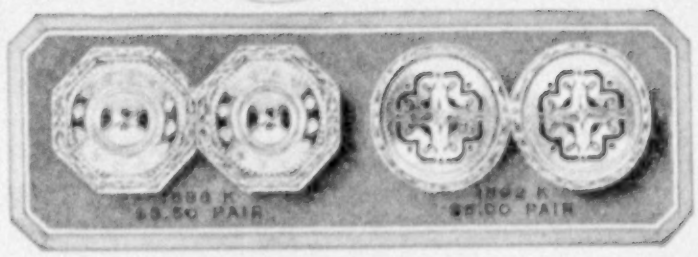

Give them Health

WE are told that three wise men followed the Star and journeyed to Bethlehem that first Christmas night, carrying gorgeous gifts—Gold, Frankincense and Myrrh.

And so the beautiful custom of Christmas gift-giving began. But, as time went on, many people made drudgery of this lovely practice. Making up Christmas lists became almost as perfunctory as making laundry lists. Tom, Dick and Harry received the usual neckties, handkerchiefs and socks. Betty was put on Mary's list, and Mary on Betty's, because both hesitated to break a social custom. Would it not be a sensible thing this Christmas to give more as our hearts may prompt?

* * * *

Twenty-one years ago, on Christmas Eve, a young man stood at his work in a post-office in far-away Denmark. Thousands of Christmas letters were pouring through his hands. And as he worked he thought how wonderful it would be if all the happy people who were sending glad Yuletide messages would add a special Christmas stamp to their letters and cards. That extra money would build a hospital in his town for the children sick with tuberculosis!

The young man took his big idea to the King and Queen of Denmark. His plan was enthusiastically greeted. The first Christmas Seals appeared in Denmark in 1904—and the little children got their hospital.

From this simple beginning grew the widespread custom of selling Christmas Seals to fight the Great White Plague.

Tuberculosis can be cured—can be prevented, and eventually wiped from the face of the earth. But the great battle against it cannot be left solely to those who support our welfare institutions.

Vast amounts of money are needed to bring back to health those who have been stricken with this most cruel of all diseases. Money for open-air camps out in the woods or on sunny mountain slopes—money for long, restful vacations free from worry—money for proper food and care. Still *more* money is needed for the great work of prevention. And this money will be raised through the sale of the little Christmas Seals.

* * * *

Plaintive voices are calling to you for help. Will you help them? Let's *all* get together to help rid the world of this dread disease that shows no mercy for rich or poor.

Buy Christmas Seals as you never bought before. Buy till it makes you happy. Place a voluntary "health tax" on all your cheerful Yuletide letters and thus brighten your gift packages with these gay little symbols of hope. The Christmas candles in your heart will burn more brightly because you have helped to smooth away some of the troubles of the world. This Christmas give the greatest gift of all—the gift of health!

In spite of the splendid work already accomplished in the way of prevention and cure, there are still in the United States a million sufferers from Tuberculosis. A majority of these lives can be saved if right steps are taken immediately.

In twenty years, the tuberculosis death rate in the United States has been cut one-half. In some places, the improvement has been even greater. For example, for seven years, the Metropolitan has assisted in a demonstration of health work in an industrial city, and there the deaths from tuberculosis showed a decline of 69 per cent. The Metropolitan has also been able to obtain most excellent results in its Mount McGregor sanatorium for employees. About 70 per cent of the 1,354 sufferers from tuberculosis discharged from the institution during the last nine years are still at work.

Tuberculosis can be detected in its early stages and can be checked. If men, women and children were given a thorough physical examination every year and took steps to correct physical impairments, 4 out of 5 deaths from Tuberculosis would be prevented.

The Metropolitan has prepared a booklet telling how to prevent and how to cure Tuberculosis. A free copy of "A War on Consumption" will be mailed to all who ask for it.

HALEY FISKE, *President.*

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A favorite Christmas gift—the Sampler.

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Select a Sampler, a Merry Christmas Sampler, for those people on your list that would enjoy one, and a fair part of your Christmas shopping will be done. Whether you give a five-pound or a seventeen-ounce Sampler, or an in-between size, your gift will be appreciated.

There's a Whitman package that gratifies every candy taste, and everyone wants the candy they personally like at Christmas time. Place your Christmas candy order with the Whitman agent who serves your neighborhood—usually the leading drug store. He gets his candy direct from Whitman's. Examine the varied line of useful and beautiful boxes and baskets for holiday gifts of Whitman's.

To make easy the choice of candy that suits write us for the illustrated booklet "On Choosing Chocolates."

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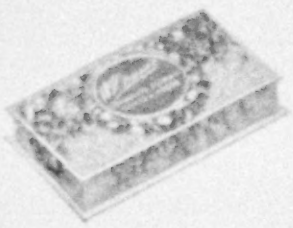
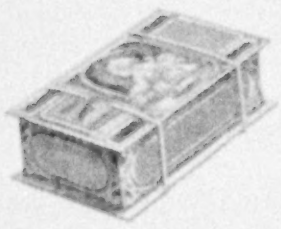
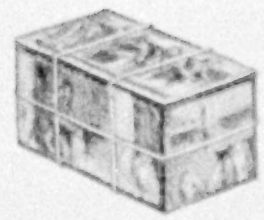
A FUSSY PACKAGE—Nuts and nut combinations in chocolate



CHOCOLATE COVERED FRUITS AND NUTS—A luxury package



SALMAGUNDI—A new assortment of chocolates in artistic metal box



PLEASURE ISLAND—Chocolates in a package suggestive of romance and adventure

OLD TIME FAVORITES—A thoughtful gift to recall Auld Lang Syne

WONDER BOX—Selected barley sugar shapes and plain chocolate for children

NUTS CHOCOLATE COVERED—Whole nut meats, heavily coated

THE SAMPLER—Chocolates and confections in America's most famous candy package

STANDARD CHOCOLATES—Famous since 1842

VOL. XLVI, No. 6 WASHINGTON DECEMBER, 1924

THE NATIONAL GEOGRAPHIC MAGAZINE

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PORTO RICO, THE GATE OF RICHES

Amazing Prosperity Has Been the Lot of Ponce de León's Isle under American Administration

BY JOHN OLIVER LA GORCE

AUTHOR OF "PENNSYLVANIA, THE INDUSTRIAL TITAN OF AMERICA," "THE TREASURE-HOUSE OF THE GULF STREAM," "RUMANIA AND ITS RUBICON," "THE WARFARE ON OUR EASTERN COAST," ETC., IN THE NATIONAL GEOGRAPHIC MAGAZINE

With Illustrations from Photographs by Charles Martin, Staff Photographer

"TIERRA á la vista!" (Land ho!) rang out from the masthead in sea-bitten Spanish as the weary-eyed watch called, perhaps at dawn, to the great admiral, pacing the quarter-deck of his wave-worn little caravel, on Tuesday, November the 19th, in the year of our Lord 1493.

All through the night Columbus had sensed the proximity of land—an unmistakable "smell" that sailors know mingling with the trade winds of the Caribbean. He strained his eyes for a sign, as he steered his anxious course through the unknown, and therefore to-be-dreaded, reefs of the twilight sea during his second voyage in search of those realms of gold, the Spice Islands of India.

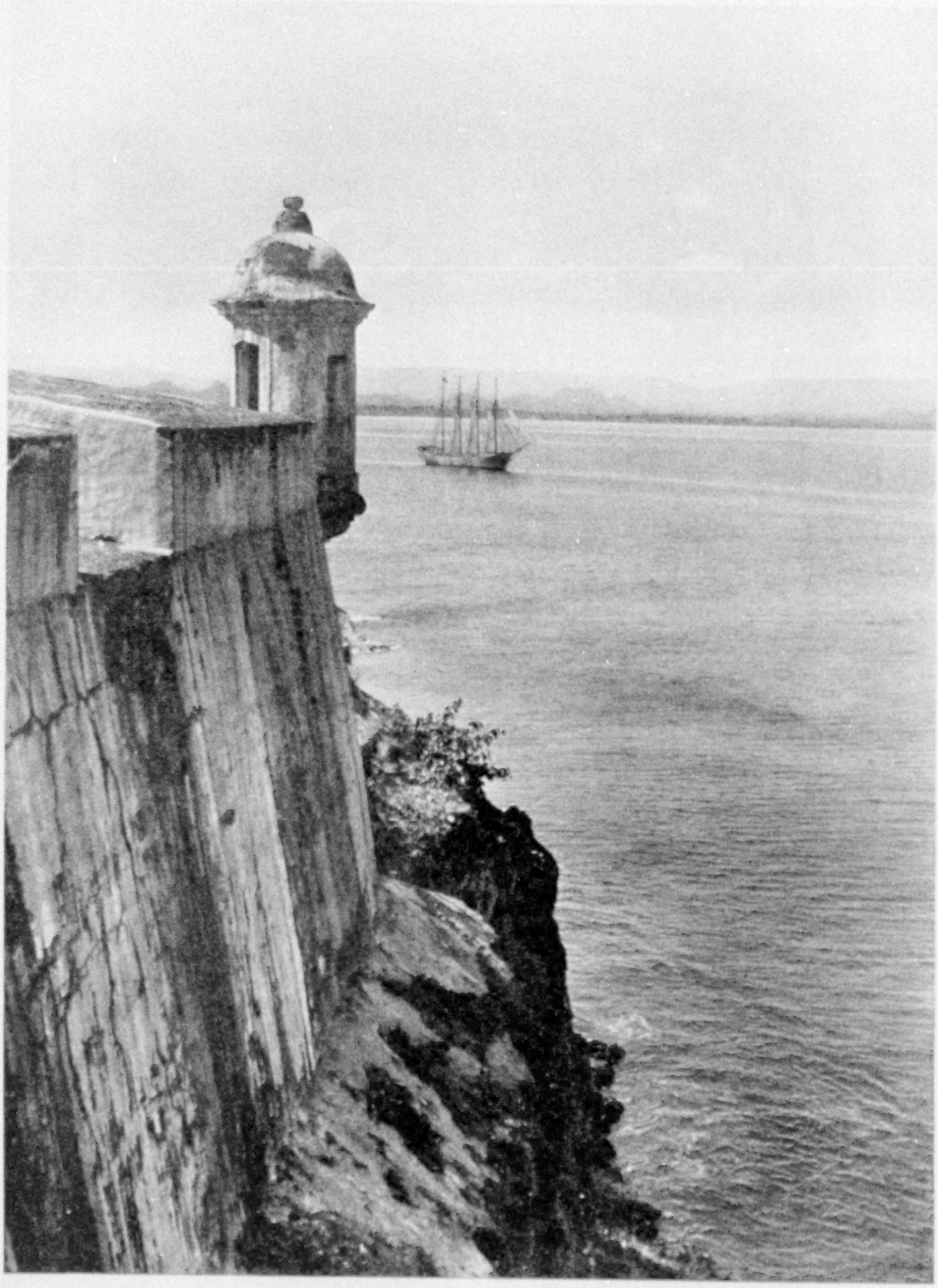
There, low on the horizon, hung a faint blur—perhaps a night mist, grudgingly giving way to the birth of a promised day—a phantom that had time and again brought the swelling surge of hope to the brave heart of the navigator, only to be quickly followed by gloom.

But no! As he focused his sea-wise vision, the faint outline of terra firma slowly took form, and yet again the admiral's soul must have thrilled with the pride of the discovery.

Skirting along the western coast line of what might at last be the Golden Continent he sought, Columbus sighted a wide, calm bay that promised shelter, and, being in need of replenishing his water casks, he negotiated a landing with the ceremony of banner and cross, and then almost at once came upon a great spring of sparkling water flowing from the hills into the bay. Whereupon he called the spot Aguadilla and the welcome spring, Ojo de Agua, "Water's Eye."

Looking farther about him for a time and realizing that once again it was but another unknown isle and not his cherished India, he registered his thanks for small favors by bestowing the name of San Juan Bautista upon the island and took possession of it in the name of Spain.

As it frequently happened in those golden days of discovery and almost immediate departure for fresh worlds to conquer, the original name of St. John the Baptist was lost; for, with his continental quest unfinished, the admiral, after recording his discovery on his chart, sailed on and, the old records tell us, never



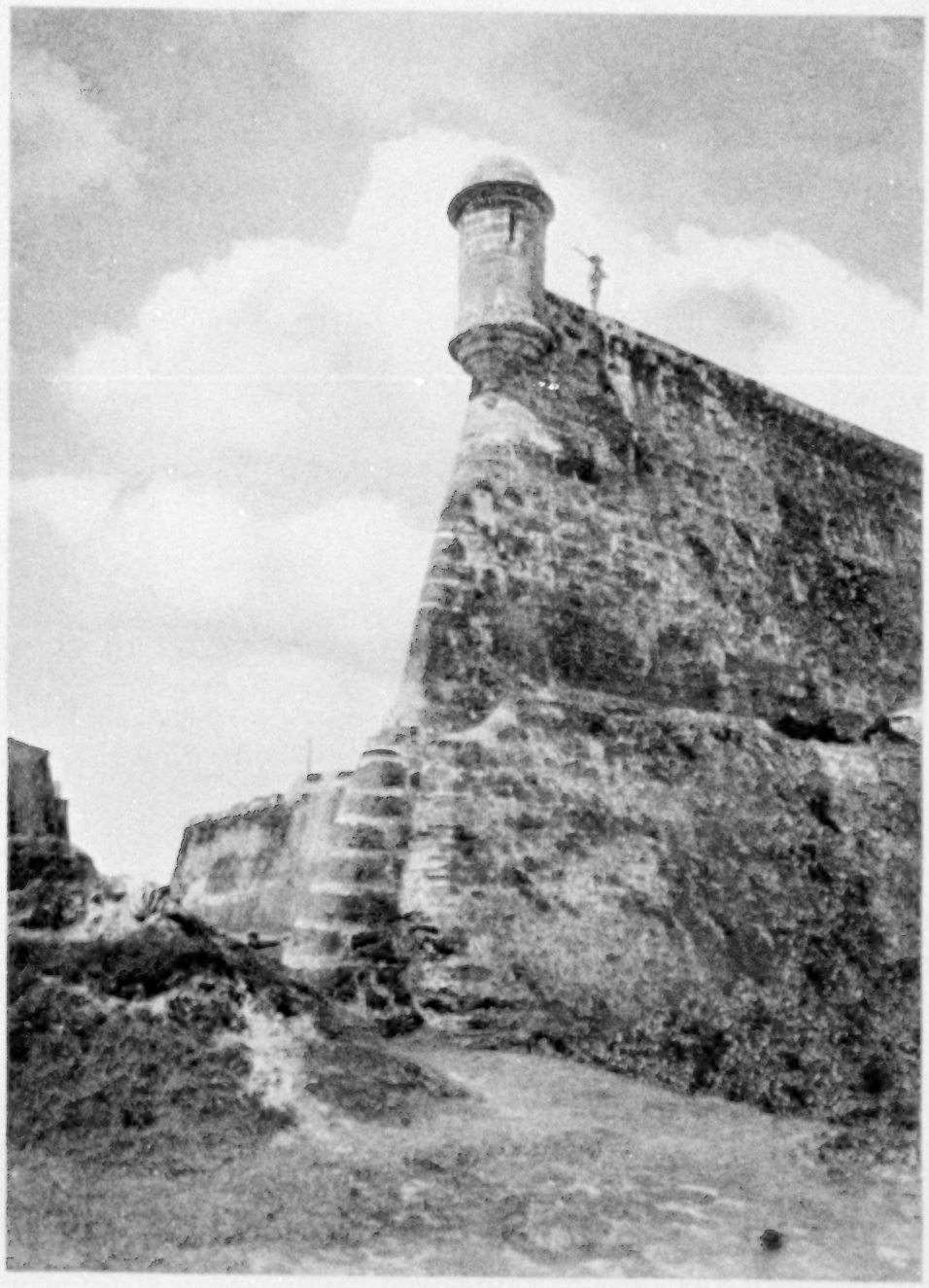
UNDER FROWNING BATTLEMENTS WHICH NO LONGER MENACE

On every hand in Porto Rico are Old World touches, such as this stone sentry box on the time-stained wall of El Morro, to remind the observer of the part Spain has played in the history of the island.

again set foot upon his new-found jewel which sparkled upon the broad bosom of the Caribbean.

PONCE DE LEÓN, THE DREAMER, ARRIVES

The master navigator did not forget his island, however, and it was his twice-told tale and description of its calm, majestic beauty that in 1508 fired the desire of young Juan Ponce de León, who, with a small company and limited equipment, sailed across the Mona Passage that separates Santo Domingo and St. John the Baptist and landed in Aguada Bay, where he found friendly natives. Pushing his investigations farther, he came upon a great bay, which he called Puerto Rico, the Noble Port, from which the entire island subsequently took its name.



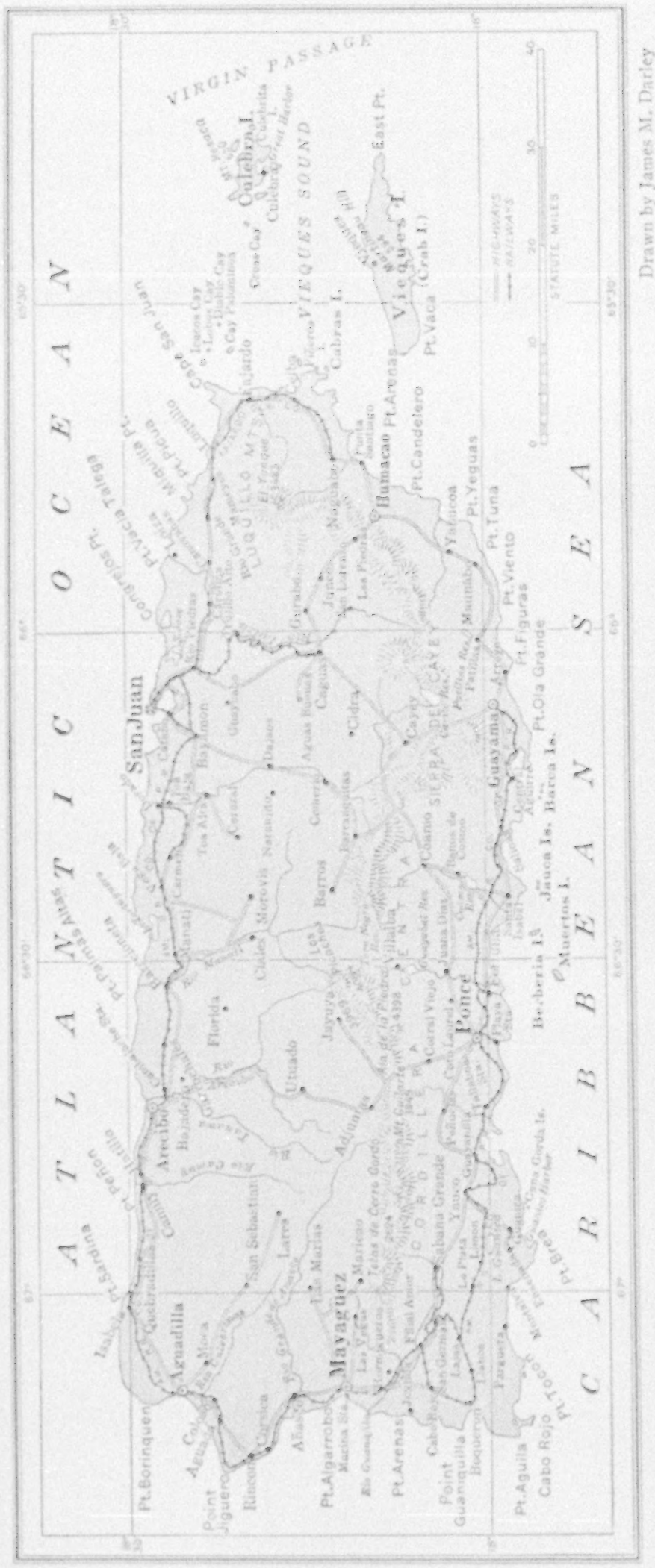
A LANDWARD SENTRY BOX OF FORT SAN CRISTÓBAL'S HEAVY WALLS: SAN JUAN (SEE, ALSO, COLOR PLATE I, OPPOSITE PAGE 630)

Charmed with the richness that he found, but needing more equipment to set up a permanent establishment, Ponce de León shortly returned to Santo Domingo, reported to his governor, and again, in 1509, with a satisfactory outfit of men and supplies, sailed once more for his island, landing at a point known as Caparra; there he started a settlement, but soon abandoned it for a more desirable spot near by, which was called San Juan, peradventure and with pardonable pride, for himself.

The Spaniards experienced many vicissitudes in subjecting and enslaving the native Indians, who called their homeland Borinquén, meaning "Land of the Brave," and of that conquest history writes a sad and very dark page.

It was from his city of San Juan that the adventurous Ponce de León set sail, like another Jason in search of the Golden Fleece, for the fulfillment of his charming, if boyish, dream of finding the Fountain of Youth, which, we all recall, resulted in the discovery of the southernmost end of the United States, Florida.

The sands in the hourglass of history have slipped slowly through the centuries, recording many events of daring, of adventure, of romance, and of sorrow between the days of Ponce de León and the present, but each has had its share in molding the Porto Rico of to-day. The story of the island's rise to prosperity and well-being under American direction of its affairs constitutes one of the great-


ATLANTIC OCEAN
CARIBBEAN SEA
VIRGIN PASSAGE
VIEQUES SOUND
Culebra I.
Vieques I.
East Pt.
Pt. Arenas
Pt. Vaca (Crab I.)
Cabras I.
Pt. Candelero
Humacao
Pt. Yeguas
Yabucoa
Pt. Tuna
Pt. Viento
Pt. Figuras
Maunabo
Arroyo
Guayama
Jauca Is.
Barca Is.
Pt. Aguila
Cabo Rojo
Pt. Brea
Muertos I.
Ponce
Juncos
Las Piedras
Naguabo
Fajardo
Luquillo Mts.
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San Juan
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Cayey
Cidra
Aguas Buenas
Barranquitas
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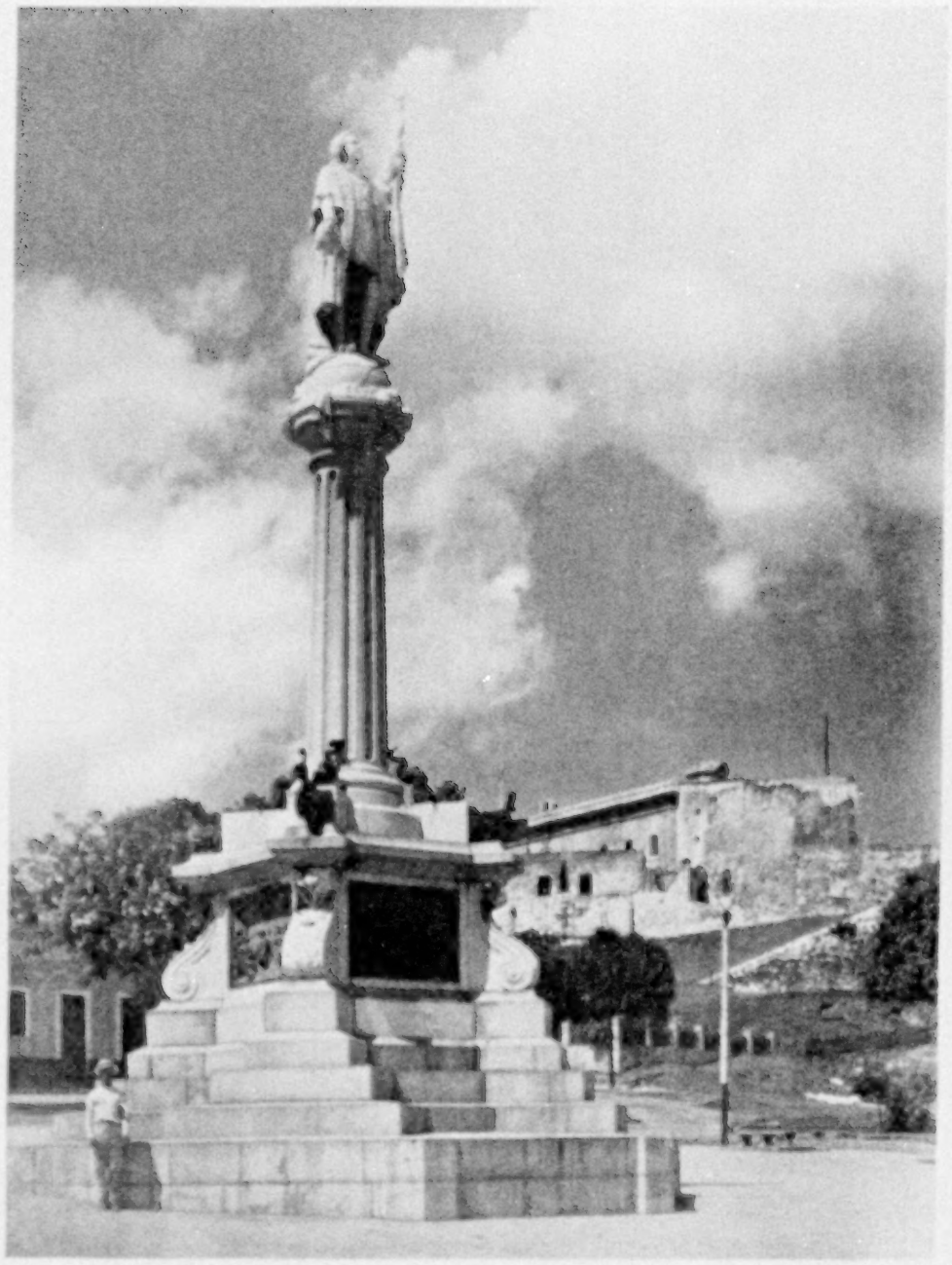
Culebra Harbor
Ensenada Honda
Ensenada Honda
Playa Grande
Playa Ponce
Ponce Harbor
Jobos Bay
Arroyo Harbor
Guayama Harbor
Port Yabucoa
Humacao Harbor
Fajardo Harbor
Puerto Real
Puerto Real
Puerto Real

UM X



THE COLUMBUS MONUMENT IN SAN JUAN

The discoverer is honored in the island by monuments, but no cities or geographic features of importance bear his name. Even the title which Columbus bestowed on the land—San Juan Bautista—was soon superseded by the present name, bestowed upon it by Ponce de León

THIS MONUMENT MARKS THE LANDING PLACE OF COLUMBUS

It stands in Aguadilla, where the great admiral, on his second American voyage, set up a cross and unfurled his banner, taking possession for Spain. The monument, formerly surmounted by a pillar topped by a cross, was partly destroyed by an earthquake in 1918.

AN OLD CHAPEL IN THE STREETS OF SAN JUAN

In its sweeping arches and skeleton bell-tower, this structure is reminiscent of the blending of Moorish and Spanish architecture familiar to many Americans through the old Spanish missions of the Southwest.

island gives vegetation a perennial luxuriance. Since it lies in the path of the trade winds, with its mountains in the central portion of the island, the humidity is rarely oppressive.

The mountain scenery is wild and beautiful. The main range, known as the Cordillera Central, runs from east to west, with slopes sweeping over a wide area toward the north and rising sharply from the south, leaving in the latter direction an alluvial plain only 10 to 15 miles wide between the peaks and the sea.

To the north of the main range there is a fine foothill region famous for its scenery, the Sierra de Luquillo, where the Indians made their last stand. El Yunque, the central peak of these hills, long enjoyed the reputation of being the highest of the island, its isolation giving it that appearance. But mountain climbers, with their barometers, have forced it to surrender its prestige to some of the peaks in the Cordillera Central. El Yunque is 3,483 feet high, while Ala de la Piedra, in the central range, reaches a height of 4,398 feet.

The magnificent main highways over these mountains make the matchless scenery enjoyably accessible to the vacation motorist.

One will find history and romance in every part of the island. San Juan itself was a settlement half a century before

A STREET IN SAN JUAN

Like the thoroughfares in most cities which grew up in the Spanish possessions, the old streets of San Juan are narrow. With the increased use of automobiles in Porto Rico, the city's traffic problems are becoming acute.

St. Augustine, Florida, the oldest town in the United States, came into being, and a full century before the Pilgrims landed at Plymouth Rock it began to take on the semblance of a city.

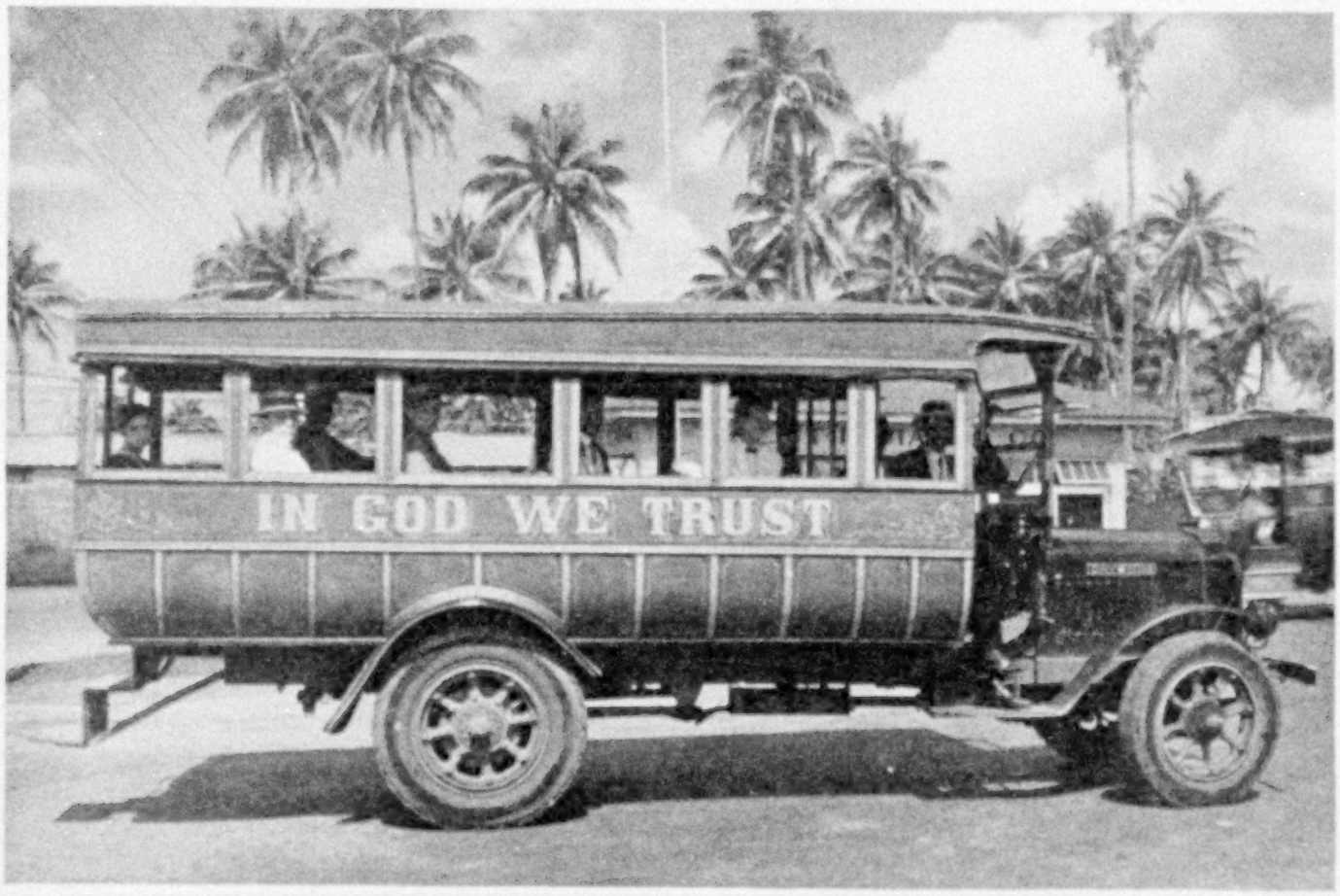
More than two and a half centuries before the United States began to build the White House in Washington, Spain started the construction of the Casa Blanca, the Governor's Palace (see Color Plate XI).

But it is the progress of Porto Rico and the Porto Ricans since the advent of the United States, barely a quarter of a century ago, that furnishes the most engaging and inspiring chapter in the history of the island.

Within a little more than a year of the cession of Porto Rico to the United States by Spain, under the Treaty of Paris, December 10, 1898, American occupation of the island had ceased to be military and had become economic, and government statistics of 1901, compared with those compiled 21 years later, the most recent obtainable, provide an unexampled contrast, showing what Uncle Sam has made of his island protégé.

PORTO RICO OUTRUNS OTHER LATIN-AMERICAN LANDS

The six states of Central America—Guatemala, Honduras, Salvador, Nicaragua, Costa Rica, and Panama—have an



RAPID TRANSIT IN SAN JUAN

A nervous passenger might assume from mottoes on many Porto Rican busses that responsibility for accidents was being shifted before they occurred. Apparently the bus owners feel that pious expressions are no more out of place on vehicles than on coins or on the framed placards of old-fashioned parlors.

aggregate area sixty times as great as that of Porto Rico and a population more than four times as large; yet their combined exports and imports are less than hers.

The Republic of Haiti, three times as large and nearly twice as populous, buys less than one-sixth as much in the markets of the world and sends less than one-seventh as much to the consuming centers of the earth—not surprising, in good truth, since this black republic is well-nigh hopeless.

Neither Colombia nor Venezuela, Ecuador, Bolivia, Paraguay, nor Uruguay could match Porto Rico in imports or exports in 1923, and the smallest of these six nations is twenty times as large, and the most populous has five times as many inhabitants as our island ward.

Porto Rico's neighbor, Jamaica, a British colony, with an area nearly a third larger and a population a third smaller, produces only a third as much export business and buys less than a third as much in the world's markets.

Certainly only a region favored highly by Nature and developed intensively by man could stand out so brilliantly in comparison with adjacent lands.

Under the American régime, the amount of sugar exported has increased sevenfold; coffee exports have doubled in quantity and trebled in value, and tobacco shipments have likewise scored marvelous gains.

When the United States took over Porto Rico the fruit industry, as such, was unknown. To-day the island ships annually nearly $3,000,000 worth of the finest pineapples, grapefruit, and similar products to distant markets.

The value of the island's exports as a whole, even after the deflation following the World War, was twelve times as great in 1922 as in 1901, while the buying power and the improved living standards of the people rose so rapidly that the importations increased eightfold during the period under review.

The wealth of the country has kept pace with the development of its industries and the increase in its trade. As-

sessed values of property in 1922 reached a total of more than $300,000,000, which is perhaps five times as great as in 1901.

A STIRRING FIGHT AGAINST IGNORANCE AND DISEASE

Although dollars and cents, pounds and tonnage, tell eloquent stories of progress and prosperity, they leave much to be told concerning the achievements of the forward-looking people of Porto Rico during these years under America's beneficent guidance.

The drive against illiteracy and ignorance and the fight against sickness and death have been marked by triumphs that two decades ago would not have been thought possible.

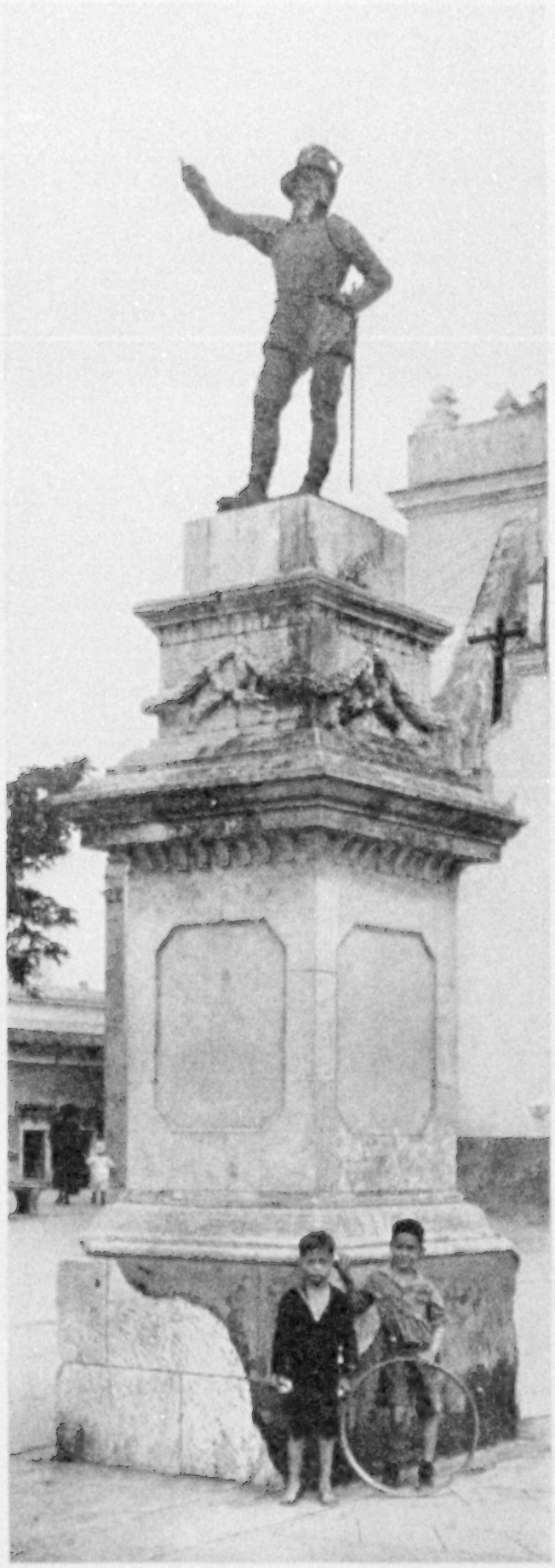
When the United States entered Porto Rico there was not a single building from San Juan to Ponce, or from Mayagüez to Punta Santiago, devoted exclusively to school work, and nine-tenths of the children of school age were without educational advantages. To-day there are nearly 2,500 schools in the island, and the number of pupils has increased more than sixfold.

With a large percentage of the population living in the rural districts and with an excessive percentage of illiteracy among the parents of children living outside San Juan, it has been a tremendous task to establish a sentiment in favor of education; but, thanks to a compulsory education law, a school garden program, and teacher visits to parent homes, rapid progress is being made in fostering such a sentiment, and nowadays attendance is not limited by lack of desire upon the part of parents to have their children learn, but by the inability of the government to establish schools fast enough to meet the demands.

Many pupils have been handicapped in their studies by lack of proper nourishment at home, and it not infrequently happens that children come to school after having had only a plantain and a cup of black coffee for breakfast. To meet this situation, charitable and religious organizations provide free school lunches in certain districts.

ARMY PHYSICIAN TAKES CHARGE OF BATTLE WITH DISEASE

The educational record has been paralleled by the improvement of health con-



SAN JUAN'S MEMORIAL TO ITS ROMANTIC FOUNDER

Although Columbus discovered Porto Rico, Ponce de León played a more important part in the island's history. He started its first settlement in 1509, and later founded the city of San Juan. The statue of Ponce de León shown above stands in San José Plaza.

THE GOVERNOR'S PALACE, SAN JUAN

The building was completed in 1600, partially burned by the Dutch in 1625, and shortly afterward was rebuilt much as it appears to-day. This is the official residence of the governors appointed by the President of the United States (see, also, Color Plate XI).

ditions. Upon the inauguration of a registration of deaths and their causes, it was found that the annual death rate was 42 out of every 1,000 people on the island.

To improve conditions, Dr. Bailey K. Ashford, a United States Army physician, was placed in charge of public health. He noted that many of the natives were suffering from general anemia and he set out to find the cause. He soon discovered that they were the victims of hookworm disease, and the attention of the whole tropical world was thus focused on this strength-sapping, resistance-lowering, disease-inviting malady.

Discovering the source of infection and evolving a method of treatment, Dr. Ashford and his associates began to administer thymol oil and Epsom salts to the island's laborers, nine out of every ten of whom were infected. He also inaugurated a campaign to eliminate the hookworm infection from the soil.

Thanks to the support of the International Health Board, the forerunner of the Rockefeller Foundation, the necessary funds were available.

THE DEATH RATE REDUCED MORE THAN ONE-HALF

More than 300,000 persons were cured by treatment which the government provided and 200,000 were aided by private organizations. The results showed that

ON THE WAY TO THE FOOTHILLS

Porto Rico had only one good highway when it came under American control in 1898. Now it has a network of main roads that makes it a motorist's paradise. The stately royal palms seen near the roadside and found in all parts of the island are a master touch of Nature in her embellishment of this West Indian beauty spot.

labor efficiency among those treated increased 67 per cent.

Life within the Tropics began to look brighter wherever Major Ashford's discovery and its application were carried. The restoration of hundreds of thousands to health by the elimination of this parasite gave the Porto Rican laborers increased vigor to throw off other maladies that prey upon hookworm victims.

Thus Porto Rico fired a broadside for health that was heard round the globe, the opening salvo of the world's ultimately victorious war against this arch-enemy that rides the shoulders of half a billion people who dwell in hot climates.

As a result of this campaign, the death rate in Porto Rico to-day is 21 per thousand lower than when the great health drive began. Apply that reduction to the present population and it will be seen that 27,300 Porto Ricans will be living to celebrate next New Year's Day who would have gone to the grave in 1924 but for the triumphs of island physicians led by a modest army surgeon from Washington!

In all the age-long stories of colonies and colonization, no nation has written a chapter in colonial service that takes higher rank than that which the United States has inscribed in the quarter of a

HARVESTING SUGAR CANE

This hot, hard work must all be done by hand. Laborers get from 50 cents to $2.00 a day and can only find work six months in the year.

century in which it has guided the destinies of Porto Rico.

The population of the island is now increasing at the rate of 22,000 annually—due almost entirely to the wide margin between the birth rate and the death rate, as there is practically no immigration. It means that the birth rate exceeds 37 per 1,000—almost equal to the birth rate of Russia and Germany, among the highest in the world. The margin between births and deaths in the United States is now about 12 per 1,000, as compared with approximately 16 per 1,000 in Porto Rico.

PORTO RICO'S PROSPERITY DUE LARGELY TO IMPROVED HIGHWAYS

If the forty-eight States of the American Union were as densely populated as our little jewel sparkling in its Caribbean setting, we would have to find room for an additional population equal to that of Asia, Australia, and South America.

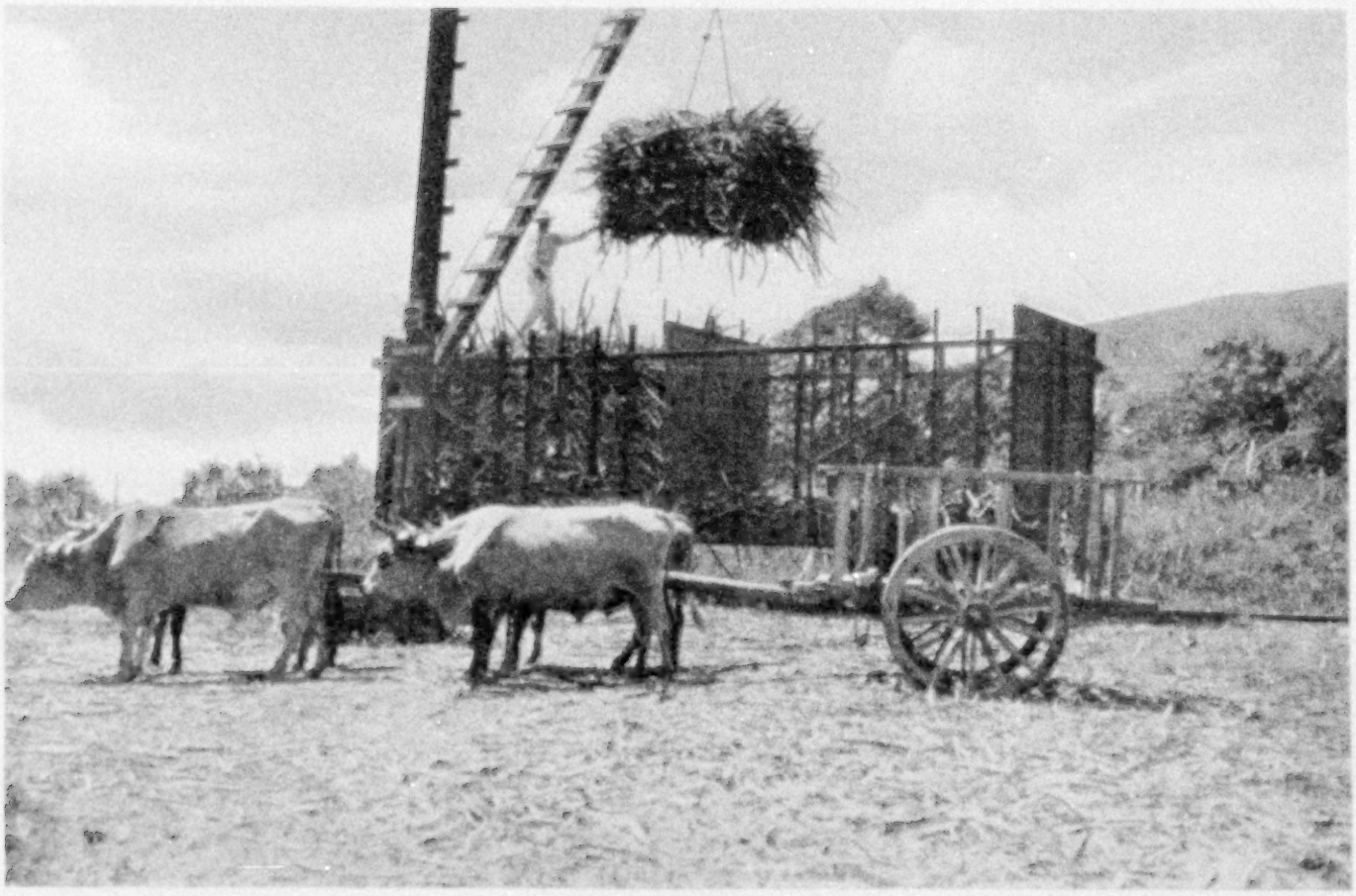
A striking testimonial to the fertility of the island's soil and the triumphs of its agriculture is the fact that, with no manufactures to swell its exports, a balance of trade appears in its favor proportionately as high as that of continental United States.

One of the secrets of Porto Rico's commercial growth has been the development of a system of highways unsurpassed anywhere in the world—highways that bring every section of the island in close touch with its major port and at the same time make it a motorist's delight. Theodore Roosevelt called Porto Rico the Switzerland of America.

When the American occupation began, the military road between San Juan and Ponce was the only highway worthy of the name in all the island. To-day there is a veritable network of splendid roads, and as one travels amid an exuberant Nature that is never curbed by frost or drought, one feels that Porto Rico is, indeed, a garden spot, and that it fully justifies Ponce de León's name for it, "The Gate of Riches."

ARCHAIC AND MODERN TRANSPORT SIDE BY SIDE

Transportation methods here differ widely from those in the States. The automobile and the motor truck carry



TRANSFERRING CANE FROM CART TO RAILROAD CAR

Nearly all large sugar estates have their private railroads, which provide the unending streams of raw material that must be fed into the mechanical maws of the crushing rooms.

most of the passengers and freight. The only railroad of any consequence skirts the northern, western, and southern shores from San Juan to Guayama, but its traffic is limited mainly to goods shipped in bulk.

In the interior the oxcart finds some of the byroads passable, but the pack pony must be relied on beyond the main highways (see page 624).

Traveling around the rim of the island, or crossing in divers places from north to south, and through the center from east to west, one finds Old World ways and nineteenth-century travel strangely associated with New World customs and twentieth-century transportation.

Creaking oxcarts and antiquated victorias vie with noisy motorcycles, ever-present "flivvers," luxurious motor cars, and lumbering trucks. Here are barefoot *jíbaros* (see page 622), on foot or astride their diminutive Porto Rican ponies; there plodding ox-drivers, prodding their creeping steeds in a seldom successful effort to quicken their gait; farther on, a string of donkeys meekly bearing their burdens of well-filled pannier baskets.

But as the road winds up into the hills and over the mountains of the interior, affording glimpses of the sapphire sea, the luxuriant plain, and verdant slopes, the visitor thrills at the wondrous, ever-changing, but always charming, panorama.

The byroads of the island are as bad as the main highways are good, and their practical impassability for many months in the year is a serious drawback to rural development. With its dense population, only one-fourth of the land has been brought under cultivation, and there are hundreds of thousands of acres of productive land that must remain uncultivated until good roads can reach them. Speed the day!

One of the public officials of the island stated recently that he had been unable to reach his mountain farm for three months, even the bridle paths being impassable, with the result that his orange crop was a total loss and his coffee could not be brought to market, even on pack ponies.

With such a constantly increasing population there are always more people needing jobs than there is work available in Porto Rico, with the result that while

A SUGAR CENTRAL

While Porto Rico is not an industrial country, the landscape in many parts of the island is dotted with tall chimneys, which serve the power plants of sugar "centrals," where the juice is pressed from the cane and is then evaporated to produce the white crystals without which no modern breakfast, luncheon, or dinner table can function properly.

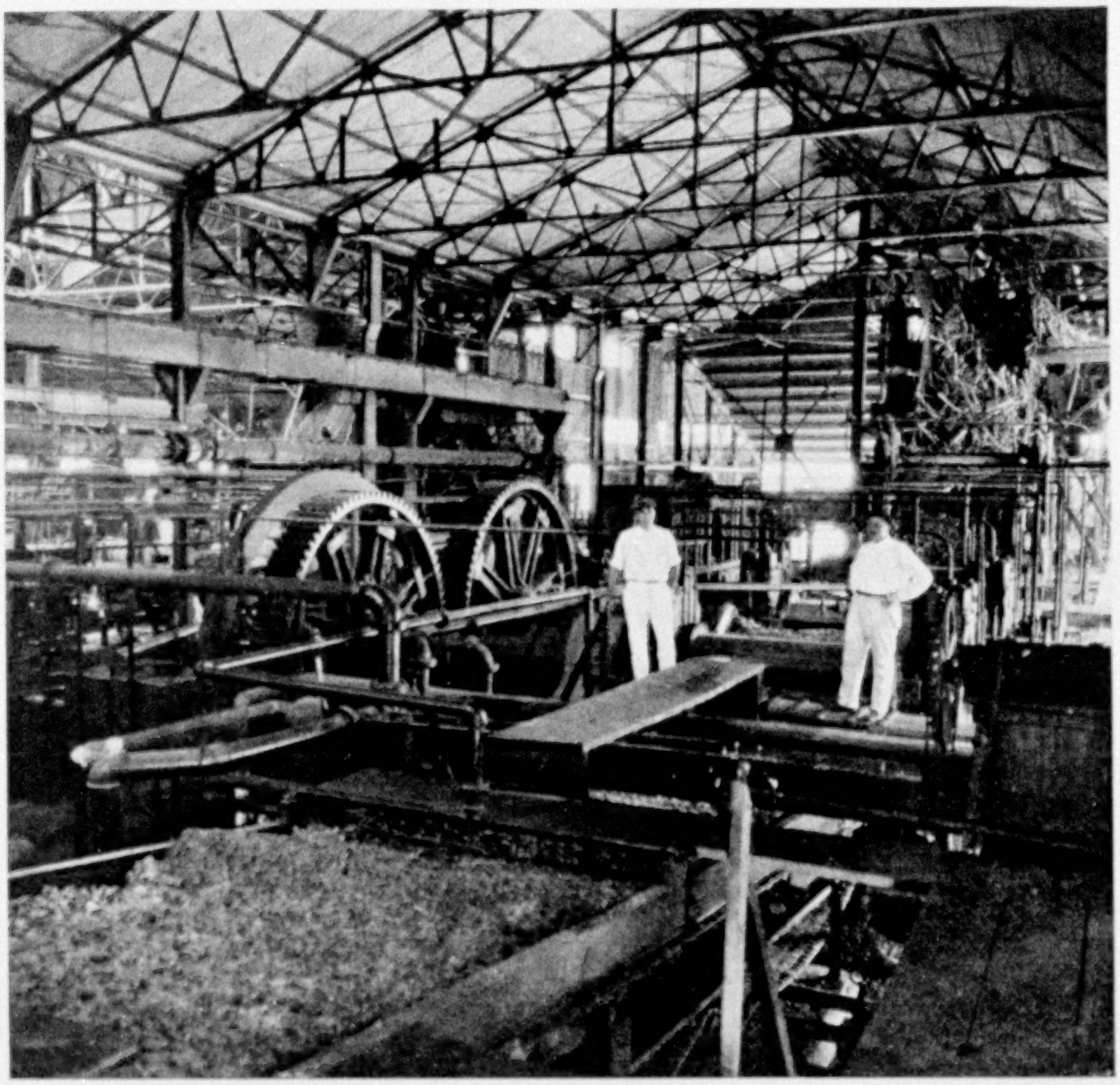
MUSEUM

CANE RAISED AT THE RÍO PIEDRAS EXPERIMENTAL STATION

The United States Department of Agriculture has been active in introducing improved varieties of cane into Porto Rico. Already types have been found that are immune to one destructive disease which was decreasing yield. Some of the newly imported varieties grow well on soils previously supposed to be too poor for cane.

A "CENTURY PLANT" IN BLOOM NEAR RINCÓN

These flower masts appear only after a considerable number of years; but the period is not even a large fraction of a century. The age at which the plant flowers depends primarily on the richness of the soil. From one variety of this plant man derives his sisal hemp binder twine and from others the Mexicans extract their national drinks, pulque and mescal.



THE CRUSHING ROOM OF A PORTO RICAN SUGAR-CANE FACTORY

Huge revolving drums flatten the stalks of cane, forcing out the juice and leaving a mass of dry fiber called bagasse. In most centrals this refuse is fed to the furnaces, with a considerable saving in the fuel bill.

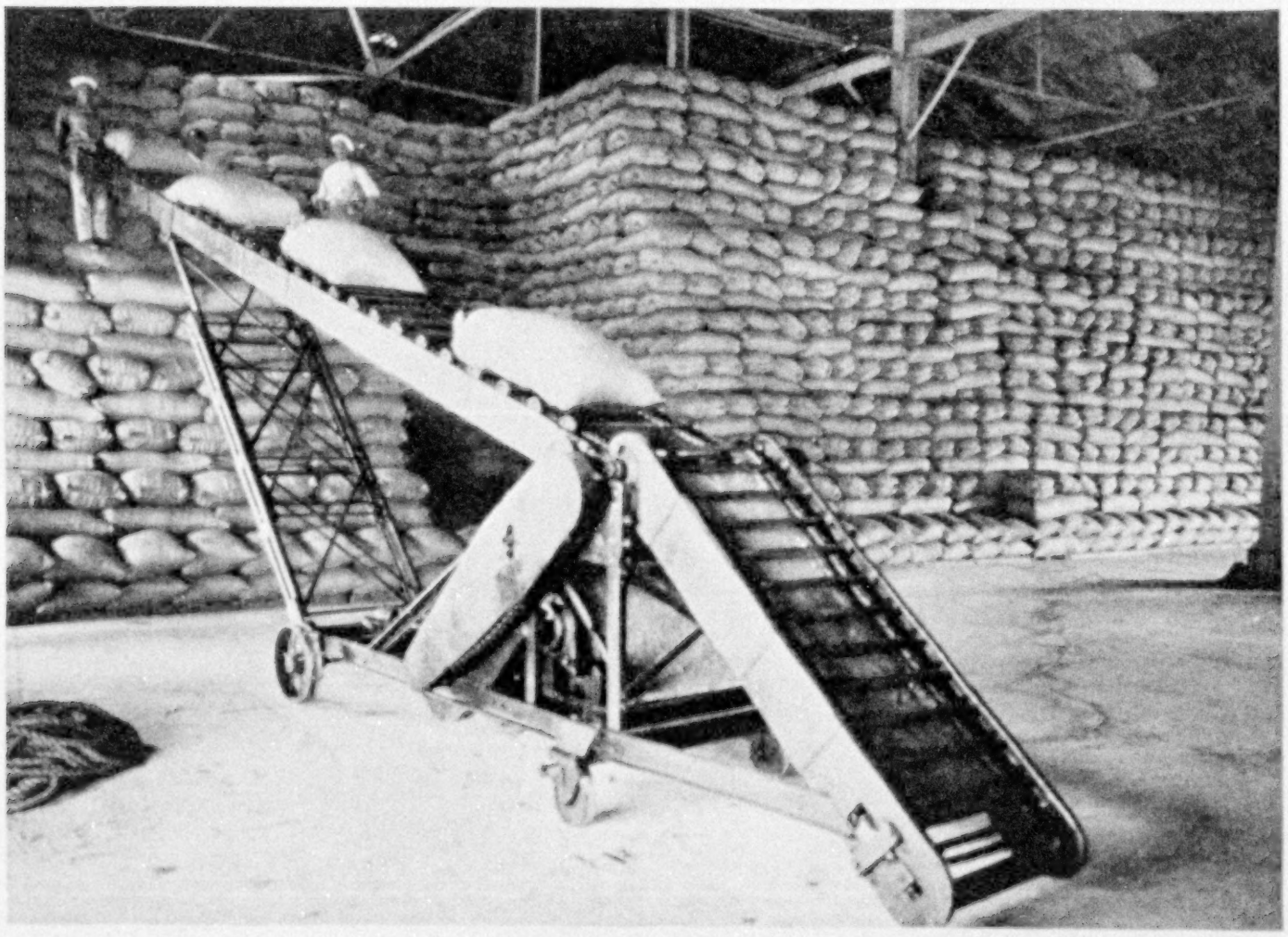
wages are more than three times as high to-day as they were at the beginning of the American occupation, they are still far below the point where laborers' families can command more than a precarious existence. On tobacco plantations wages range from 40 cents to $1.50 a day, on coffee *fincas* the range is from 25 cents to $1.50, and on sugar estates it is from 50 cents to $2.00.

THE LABORER HAS A JOB ONLY HALF THE TIME

During nearly half the year the laborer has little to do except cultivate his own small patch. One rarely finds any islander among the two-thirds of the population engaged in agriculture who has a steady, year-round job.

Whether in the cane fields of the coastal plain, the tobacco lands of the foothills, or the coffee estates of the higher country, the working season is little more than six months long. With the sugar cane harvested, the tobacco gathered and dried, and the coffee picked and cured for market, the year's work of the rural population is done and, however willing the hands, wage-producing work is not to be had. This is a problem for the leaders and thinking citizens of the island.

General Goethals, in speaking of the labor force on the Panama Canal, once



STACKED SUGAR AWAITING SHIPMENT ABROAD

Sugar is Porto Rico's greatest money crop. Since the American régime began, the exports have increased sevenfold and have reached in one year a value of nearly $100,000,000.

declared that if the average West Indian laborer were paid twice as much he would work only half as hard. Mr. L. W. James, the efficient American Trade Commissioner to Porto Rico, shows how this same condition obtains in Porto Rico.

He cites the case of a jíbaro from the hills who recently came down to a fruit farm near San Juan and asked for work at 70 cents a day. The employer refused to hire him at 70 cents a day, but offered $1.00, adding that if he proved a good worker his wage would be increased to $1.25.

But the jíbaro needed only about $4.50 or $5.00 a week, and after he had earned that sum he invariably "knocked off." His shack to sleep in, a dollar a week apiece for the two women of his household and enough money to buy his rice, codfish, beans, coffee, and cigarettes satisfied his every desire. The idea of saving something for a rainy day was beyond his comprehension. Education will provide the answer.

When the pay is low and six and a half days of work are necessary to earn enough money to meet expenses, the jíbaro will work full time. So the Porto Rican employer fixes wages on a basis that will keep the laborers busy earning a livelihood.

UNEMPLOYMENT IS A PERENNIAL EVIL

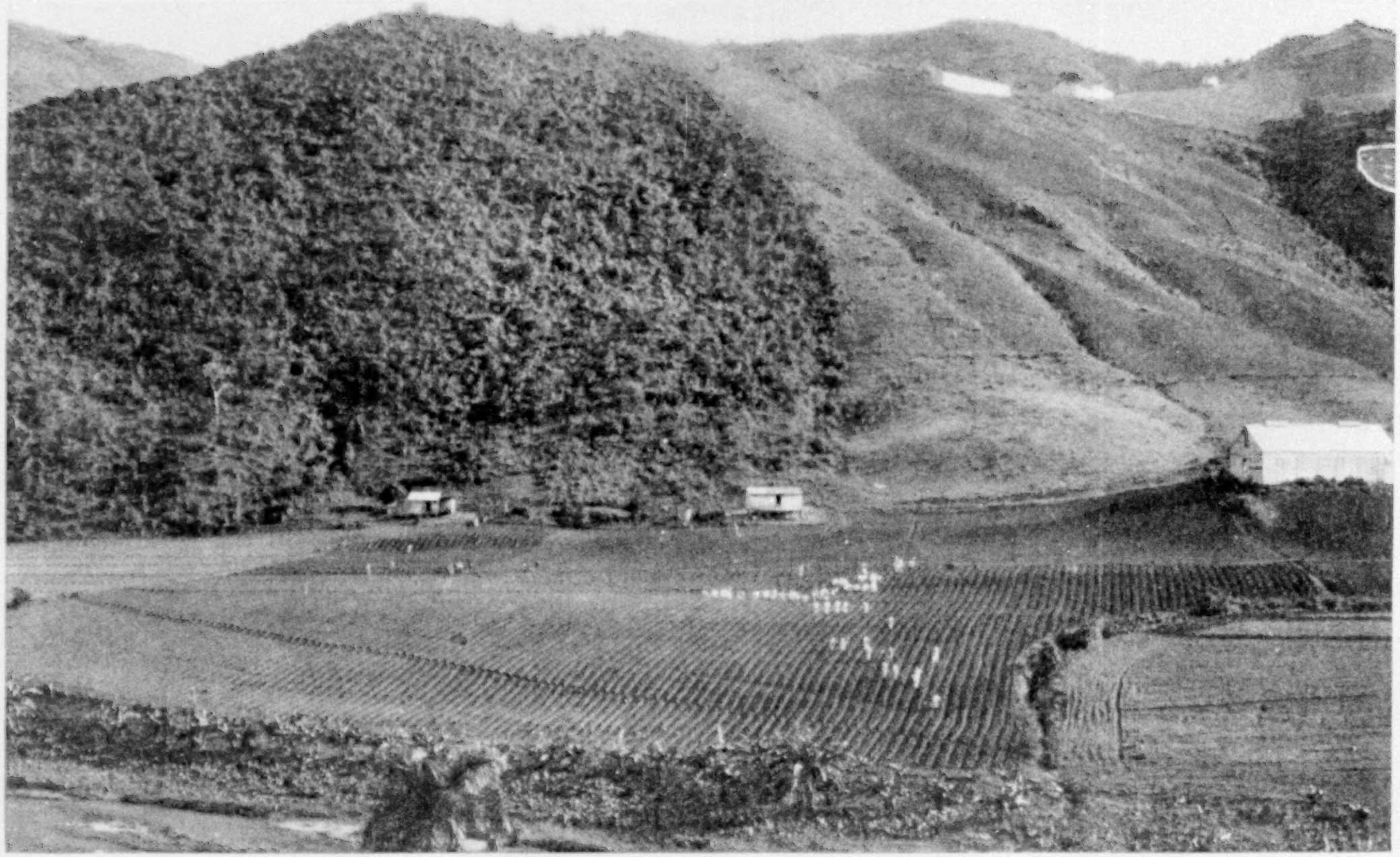
In the cities conditions are better. Mechanics get from $2.00 to $7.00 a day and day laborers as high as $3.00. Women in tobacco factories earn from 50 cents to $2.00 a day.

Many servants in the best hotels seldom get more than $5.00 a month. There was a minimum wage law for women of a dollar a day outside of household domestic service, but the shrewd Porto Rican employer, while he hired his help at the legal wage, usually found grounds on which to dock them enough to reduce the week's pay envelope to the standard he desired to set. The deductions might be for unsatisfactory work, insufficient output, or whatnot.

919

A GLIMPSE OF PORTO RICO'S UNEXCELLED MAIN HIGHWAY SYSTEM

Portions of Porto Rico not cleared for cultivation are covered with rank tropical growths. The abundant rainfall over most of the island gives vegetation a perennial luxuriance.

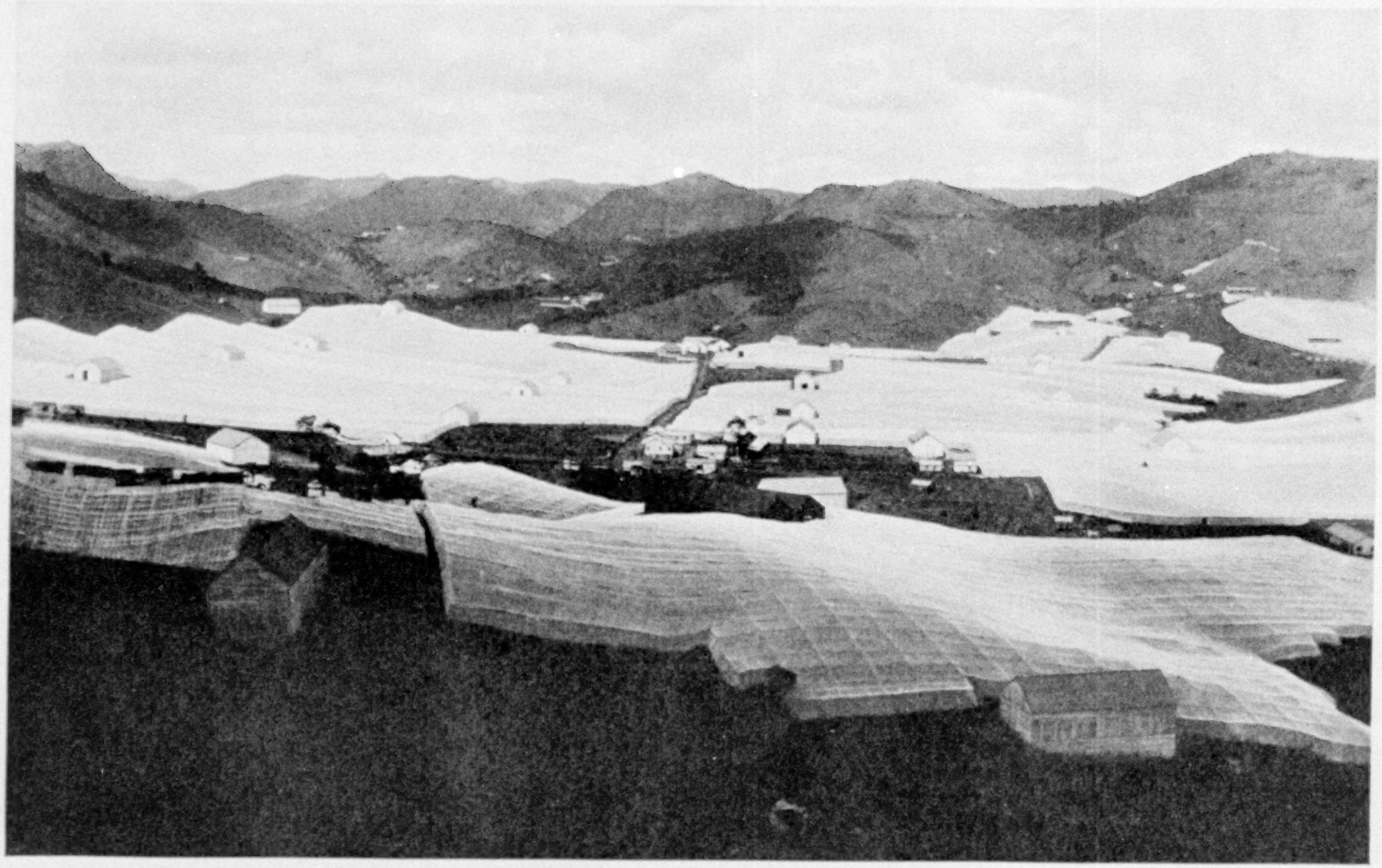


Photograph by Frederick Krug

PLANTING TOBACCO ALONG LA PLATA RIVER NEAR COMERÍO

Porto Rico's main crops have more or less separate zones. Sugar cane is grown chiefly in the lowlands near the coasts, tobacco in the foothills, and coffee in the higher lands.

TOBACCO FIELDS AND DRYING SHEDS IN THE CAYEY TOBACCO DISTRICT



Photograph from N. H. Darton

HOW PORTO RICO PROTECTS ITS BEST TOBACCO

Cotton mills have a hand in the production of high-grade Porto Rican cigars, for much of the best tobacco is grown under cheesecloth, which protects it from the scorching sun and the insects. Hundreds of thousands of yards of this cotton fabric are spread over the Porto Rican landscape.

SORTING TOBACCO IN CAGUAS

There is an opportunity for the development of more industries in Porto Rico. Only Belgium, Holland, and Great Britain of the Occident are more densely populated. Jobs are not always to be had, and a good position is an heirloom to be handed down from generation to generation when possible (see text on opposite page).

SORTING COFFEE BEANS

After coffee is dried the better grades are selected by hand, the defective grains being picked out by the quickened fingers of women and girls.

Photograph by Frederick E. Cook

GATHERING COFFEE NEAR CIALES

Most of the coffee plantations are situated in the interior, on the foothills and lower slopes of the central mountains. The coffee harvest of Porto Rico is long drawn out. The first berries are gathered as early as July and the season does not close until February.

With more laborers than there is work to be done, unemployment is a perennial evil, and a job is like an heirloom, to be handed down from generation to generation, whenever possible.

Usually the plantation laborer and his entire family go barefoot because there are no funds with which to buy shoes. The young boys in the rural districts commonly run about with less than the proverbial fig leaf to clothe them and suffer not at all, thanks to the glorious climate.

Food, perforce, is both simple and scarce. Rice and beans, with a little bit of salt cod, appear on the table when the wage-earners are employed; but these are imported and cost money, so they disappear when the job ends. Then bananas, sweet potatoes, and native vegetables raised on their small patches of ground must tide the families over until another period of employment begins.

The United States Department of Agriculture is trying to induce the natives to raise Belgian hares. The rapidity with

DEFT FINGERS WEAVE PORTO RICO'S "PANAMA" HATS

The fiber comes from the *palma de sombrero* (hat palm), which grows in the few relatively arid regions of southern Porto Rico. Cabo Rojo, near the southwestern corner of the island, is the center of the hat-weaving industry. The work is done in the streets, early in the morning and late in the afternoon, when the moisture in the air is sufficient to make the strands pliable (see text, page 644).

which these animals breed, the quickness with which they attain maturity, and the ease with which their food requirements are met in a tropical environment make them poor man's cattle *par excellence*. Hare raising would solve the jíbaro's meat problem as perhaps no other industry could.

THE NATIVE'S SHACK IS A FLIMSY AFFAIR

If one examines the census returns, the conclusion will likely be drawn that Porto Rico has a high percentage of home owners; but a very large proportion of these homes are merely thatched shacks costing, perhaps, $25 each.

Plantation owners are glad to have natives build the shacks on their estates, as a constant supply of cheap labor is thus provided. There are few mortgages, as such buildings are not worth mortgaging.

The thatch, made of tough grass or palm leaves, is sometimes used for side walls as well as for the roof, though more frequently the walls are made of royal-palm bark. Flattened tin cans and discarded corrugated metal sheets are also utilized (see page 625).

The hut may be roughly divided into two rooms, but more often it is not. Cooking is done either in the open or in a rude lean-to adjoining the shack.

Dishes and utensils are largely homemade. Gourds and discarded tin cans are substituted for the pots and pans of continental kitchens. Hammocks and floor pallets take the place of beds and chairs.

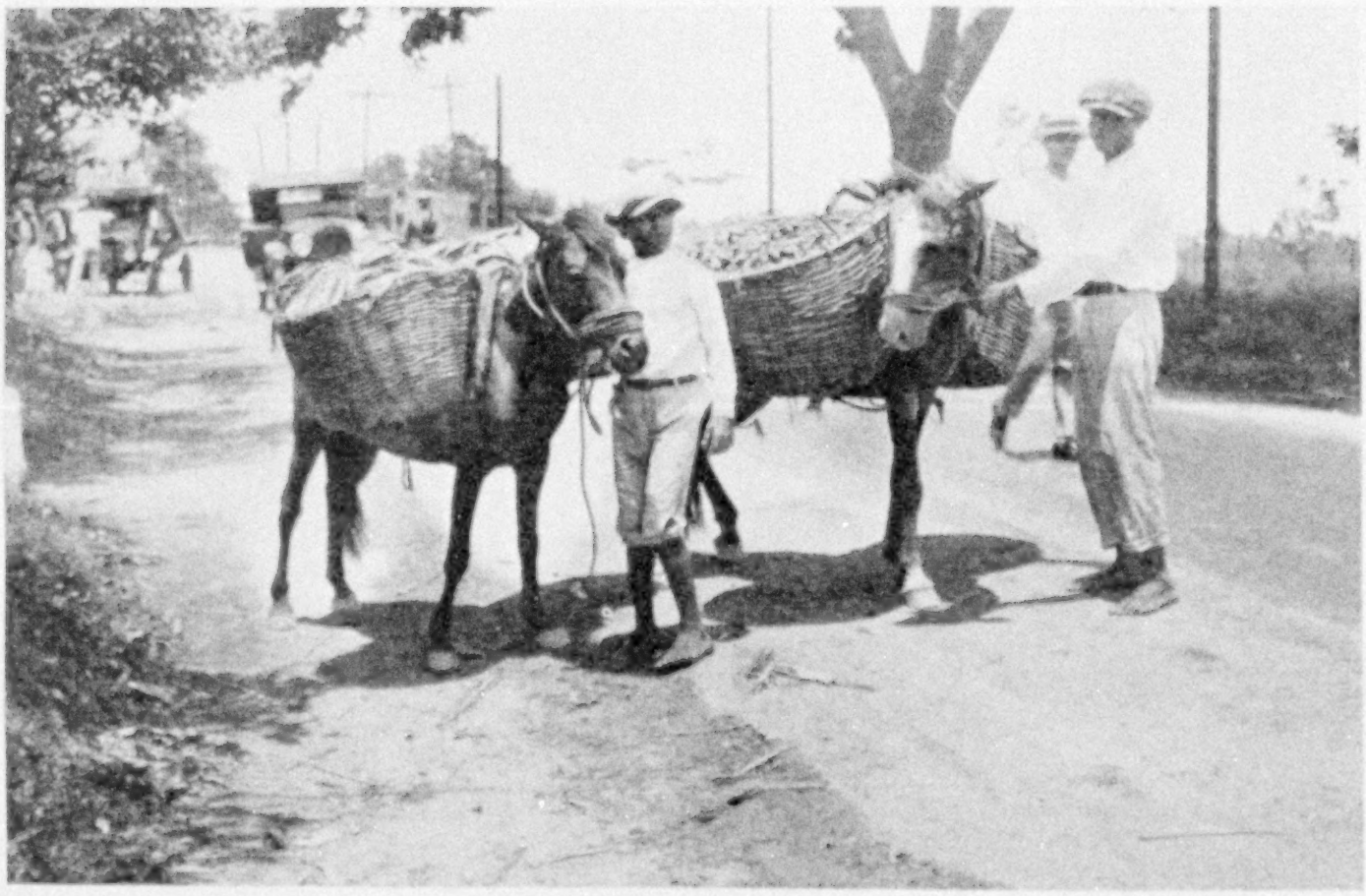
When the huts are new they are clean and, with their floors raised well above the ground, could be easily kept so but for the fact that the damp weather causes them to mildew and become ideal abiding places for all sorts of vermin.

THE OLD-TIME "JÍBAROS" WERE FUGITIVES FROM CIVILIZATION

The rural, laboring native is known as "jíbaro," which literally means "escape from civilization." Good-natured, reconciled to a hard lot and a precarious existence, a mixture of Indian and Spaniard, he combines the care-free ideals of the Redskin and the impetuous temperament of the Spaniard.

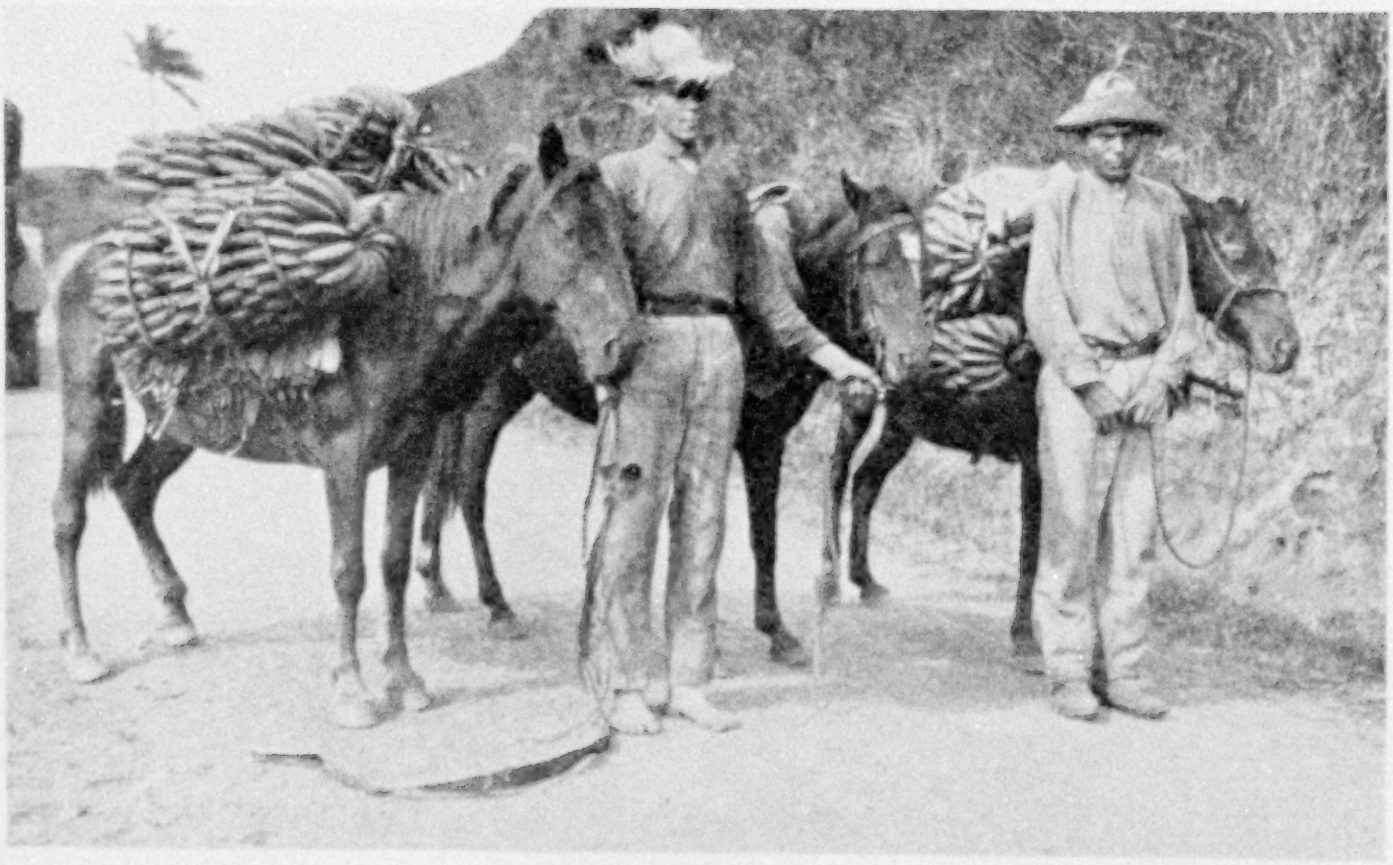
WATERFALLS NEAR THE DIVIDE ABOVE VILLALBA

With its central mountain mass and a heavy rainfall, Porto Rico has a wealth of streams and numerous waterfalls. A few of the latter, notably the Salto de Comerio, are generating hydroelectric power. The average annual rainfall on the island is 71 inches, but in several mountainous regions the precipitation amounts to nearly ten feet.



MARKET-BOUND

Because the highways of Porto Rico are fed in many cases by trails impassable for wheel traffic, pannier baskets, hung from donkeys and horses, are a common sight, even on the best roads. This ancient transportation method competes directly with modern motor trucks in moving Porto Rico's fruit and vegetable crops to market.



A "BANANA SPECIAL" EN ROUTE FOR BARRANQUITAS

Among the jibaros shoes are a seldom-seen mark of distinction. The police are said informally to divide Porto Ricans into Shod and Unshod groups (see text, page 630).

PLOWING IN A PINEAPPLE FIELD NEAR LA MUDA

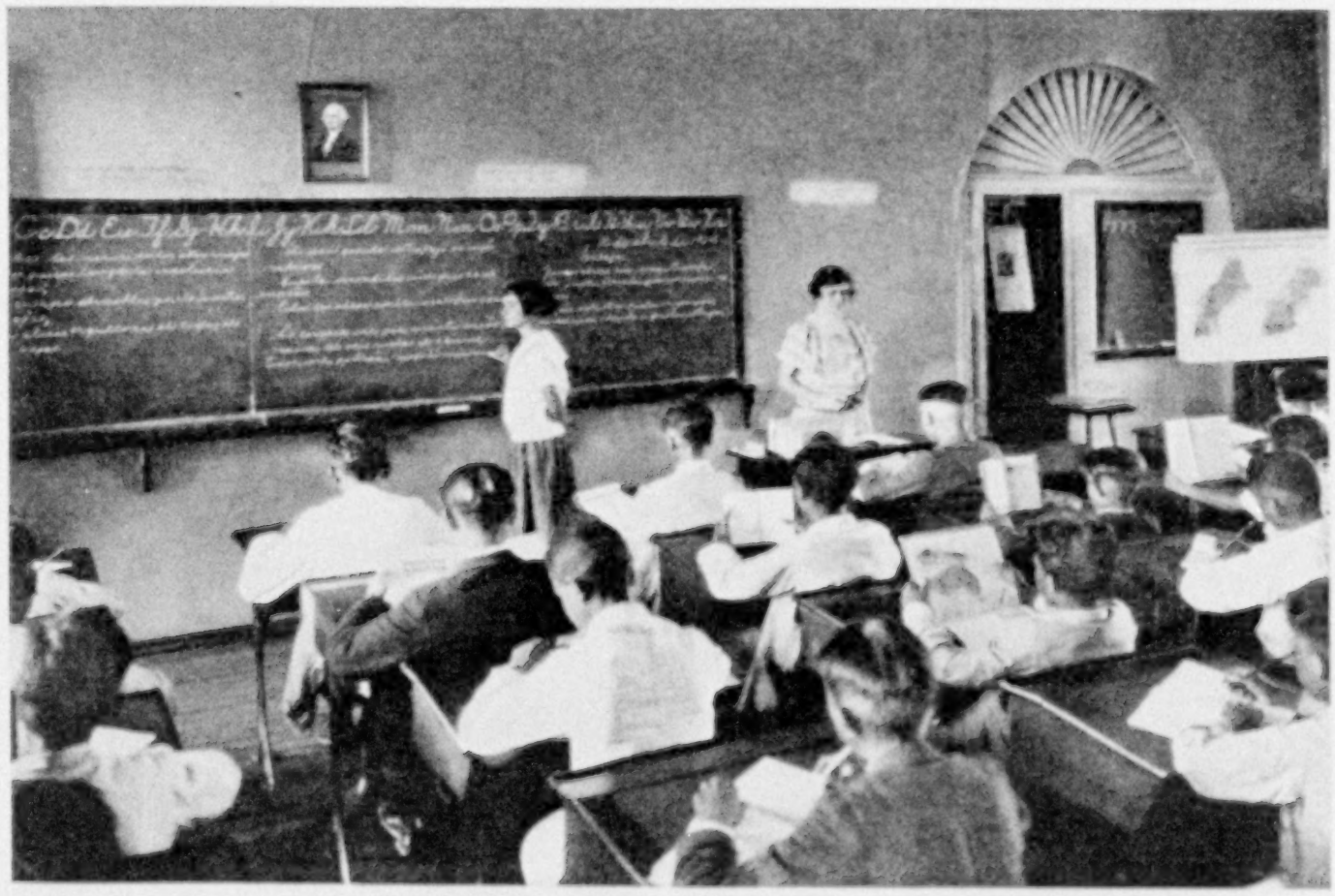
Housing is a relatively simple matter for the rural laboring classes of Porto Rico. Constructed of palm-bark sides and grass roofs, such dwellings as that shown above represent an outlay of perhaps $25. They are "furnished" with hammocks and pallets. The kitchen equipment consists largely of gourds and discarded tin cans; yet the natives are a smiling people.

PYRAMIDS OF PORTO RICAN SALT

In the semidesert regions along the south coast of the island, sea water is evaporated to make salt. The photograph was taken near Salinas.

A TYPE OF SCHOOLHOUSE WHICH THE UNITED STATES HAS GIVEN TO PORTO RICO

There were very few buildings devoted exclusively to school work before 1898; now there are nearly 2,500.



A CLASSROOM IN A SMALL-TOWN SCHOOL

Educational methods, especially in primary grades, were rather primitive when the island came under American control, but after a period of experimentation, modern teaching is producing excellent results. School enrollment has increased sixfold, and a generation is growing up equally familiar with English and Spanish.

A SHEATH GOWN IN CAGUAS

In Porto Rico's delightful climate, where a tropic sun is tempered by clouds and trade winds, the family clothing budget can often ignore the children.

The jíbaro inherits his name from the distant past. After Columbus discovered the island and Ponce de León awakened it, a gold fever brought many adventurers, who impressed the Indians into service. Those natives who could escape fled to the interior, away from their slave-driving masters.

Some of the pioneering Spaniards made homes for themselves with native women, by whom they had numerous children. These all too often were turned adrift.

Furthermore, in the past Spain sent to the island many petty offenders, who sooner or later were released to wander inland from the civilization that fringed the coast.

Out of diverse types and races has been bred the jíbaro. He is no longer an "escape from civilization." A benevolent government is trying to do all it can to improve his lot, to carry to him whatever it can of the blessings of health, education, and happiness.

PORTO RICO'S CONSTABULARY

One of the potent factors in the development of Porto Rico has been the constabulary system under American supervision.

The police force, which under the Spanish régime consisted of less than 300 officers and men, when the island was formally taken over by the United States, was replaced by military police under the command of General John R. Brooke.

In 1899 the present insular police of Porto Rico was organized with a force of six officers and 100 guardsmen. This was almost immediately increased to 16 officers and 355 guardsmen, with an officer of the United States Army as inspector. Their work was confined to rural districts and towns of less than 6,000 inhabitants, with the municipal police guarding the larger cities.

In 1902 a law was enacted which intrusted the protection of the entire island to this organization. Seven police districts were established, each commanded by a captain, a lieutenant, and as many warrant officers as the chief might find necessary. The headquarters of the chief are at San Juan.

It is said that no State in the Union has a force that does the entire policing of the

Photograph by Charles Martin

"ELEPHANT'S EAR"

The *taro* (bleeding heart), as it is known in Porto Rico, is climatically on its native heath in the island and grows luxuriantly. It is one of the few tropical plants that can be grown in the open in practically all parts of the United States.

LEARNING TO EMBROIDER IN A PUBLIC SCHOOL OF PORTO RICO

Needlework has become in recent years one of the island's most considerable industries. Material for women's blouses and lingerie, men's shirts, and other clothing is distributed to women, who make the garments in their homes on a piecework basis.

UM

Photograph from N. H. Darton

A "FINGER" GROWTH OF BRANCHES ON A COCONUT PALM

Such a formation is an exception that emphasizes the marked uniformity in the growth of these trees, which provide an important article of export.

A SAN JUAN SCHOOLGIRL MAKING PILLOW LACE

Instruction of this sort in schools founded since Porto Rico became a part of the United States has increased prosperity in many families. Hundreds of yards of lace, made in homes, are now exported annually.

commonwealth—cities and rural districts alike—and Porto Rico has for the protection of her population of 1,300,000 only 729 policemen, distributed over 75 districts.

When one takes into consideration the mountainous character of the island, unsettled labor conditions, the prohibition-enforcement obligations, increased traffic, and trebled property values, it is little wonder that these efficient men have earned an enviable place in the history of the island. In 1921 retirement with pay was provided for members of the force who had served for 25 years and for those who had reached a given age, varying from 50 years for the lowest ranking officer to 60 years for the highest.

Recently there has been inaugurated an educational campaign for the constabulary. Instruction is given in English, mathematics, geography, and history, with a record of nearly a 100 per cent voluntary attendance.

BY THE SHAPE OF THEIR FEET THEY ARE KNOWN

The insular police roughly divide the masses in Porto Rico into four categories for identification—the urban dwellers who wear shoes, and three other groups that proclaim the regions from which they come by the shape of their bare feet.

The jibaro with a broad, flat foot can usually be designated as a worker in the cane lands along the coast. A native with short, stubby feet usually comes from the tobacco districts, where he uses them to plant his crop.

A man with overdeveloped great toes (helpful in climbing) probably comes from the hill country and the mountains, where the coffee plantations abound.

The professional mendicants of the island are a persistent band. With any sort of shack sufficing for shelter, with native fruits and vegetables available for food, with a very tolerant law and no suffering from the rigors of climate, the beggar has little to worry about.

Saturday is beggars' day, and stores, offices, and individuals lay in supplies of pennies. In the larger establishments a clerk is stationed near the door, and as the mendicants slip in he nonchalantly pushes several pennies to each. The coins are usually accepted without thanks and as a just due. The community thinks it cheaper to issue these small doles than to pay taxes for charitable institutions.

Salesmen going their rounds usually carry a pocketful of pennies, as they make a better impression on customers if they are liberal with the beggars.

EXAGGERATION OF SPEECH IS A CHARACTERISTIC

As in most tropical countries, the hyperbole is a tremendously overworked figure of speech. Admire a native's horse, his saddle, his gun, his dog, his house, and he'll tell you in the most convincing tones that it is yours. But it is yours only after a manner of speaking.

Ask him why his people talk in such prodigal fashion and he will reply, "It is the custom," and custom is law to them.

This reminds me of the experience of a young American journalist who toured the lands of the Spanish Main with one of the State Department missions.

He had a pet expression with which he habitually registered surprise—"You don't mean it!"

As the polite and polished folk of the countries he visited indulged in their "it-is-the-custom" exaggerations, he would employ his astonishment-registering phrase at every turn.

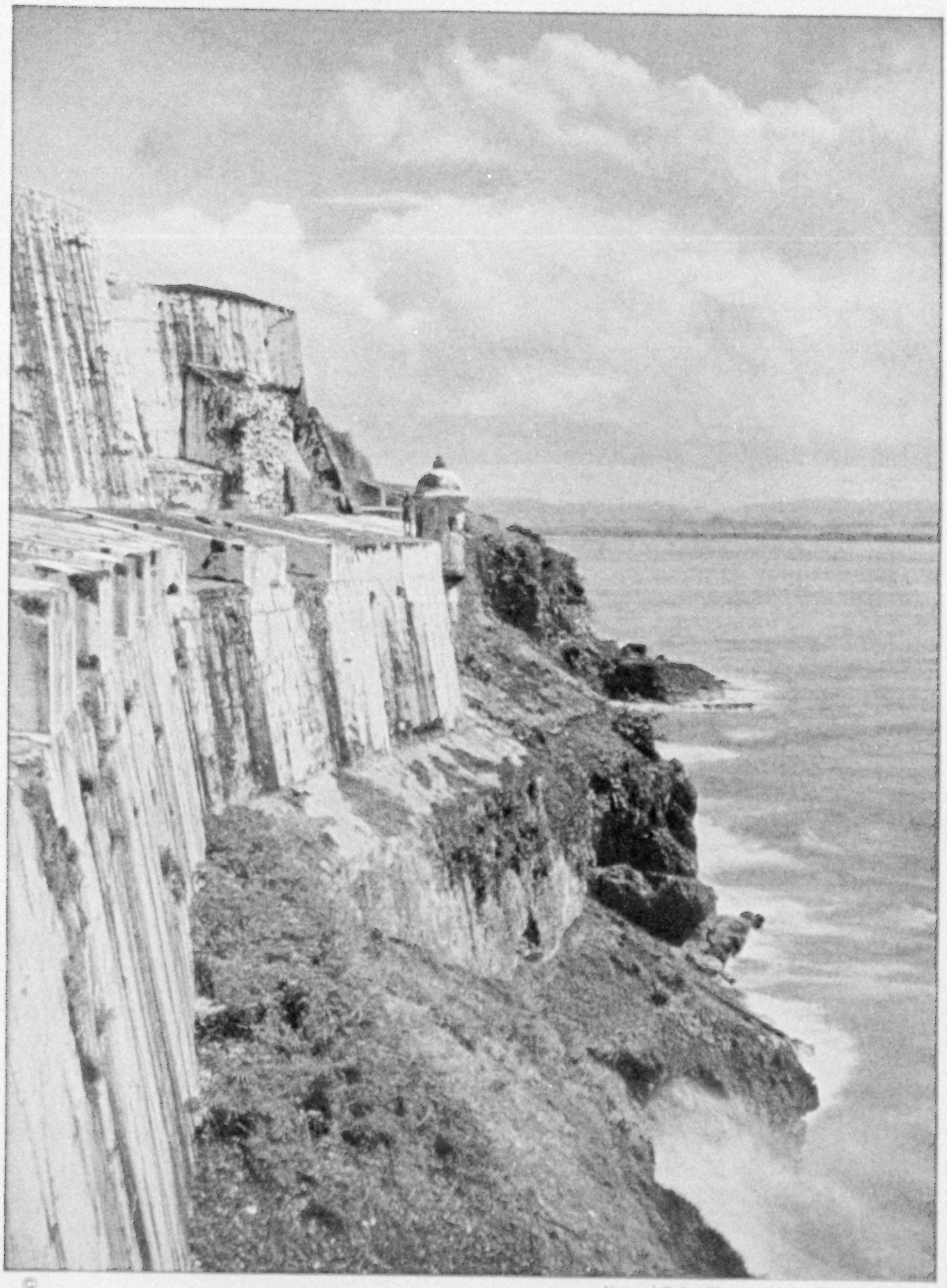
A pained look would sweep over the countenances of his hosts. Here was a new kind of gringo. Never before had they met one who would attack their veracity when they uttered their polite fictions!

A GAY, CARNIVAL-LOVING PEOPLE

Extravagance in phrase is matched by the love of the spectacular in the affairs of life generally. Carnivals and games of chance are always sure of rich patronage in urban Porto Rico. Grandmothers dress in as bright colors as do the children; brass bands flourish in almost every large town. Porto Rico likes pleasure in high gear.

Betting on horse races is almost a passion. Every bettor contributes to a pool, and the person who picks the winner takes the money. In this way a dollar stands a chance of winning a thousand or more.

At dances the ladies of the aristocracy, with their mantillas caught with a rose, their splendid tortoise-shell combs, and



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Natural Color Photograph by Charles Martin

MORRO CASTLE: SAN JUAN, PORTO RICO

Built in 1584 and commanding the harbor of the major city of Porto Rico, El Morro's stern walls have outlived their defensive usefulness, but the centuries have colored them with legends and traditions of varying hues.

© Natural Color Photograph by Charles Martin

A MORNING'S CATCH: PORTO RICO

The Caribbean teems with fish of brilliant colors and of excellent food value. Nearly every form of Mediterranean marine life abounds in Porto Rican waters.

© Natural Color Photograph by Charles Martin

A COLOR STUDY IN GEOGRAPHY

A Porto Rican belle, a Chinese shawl, a Spanish comb, and a Moorish mosaic—the artistry of four continents in one picture!

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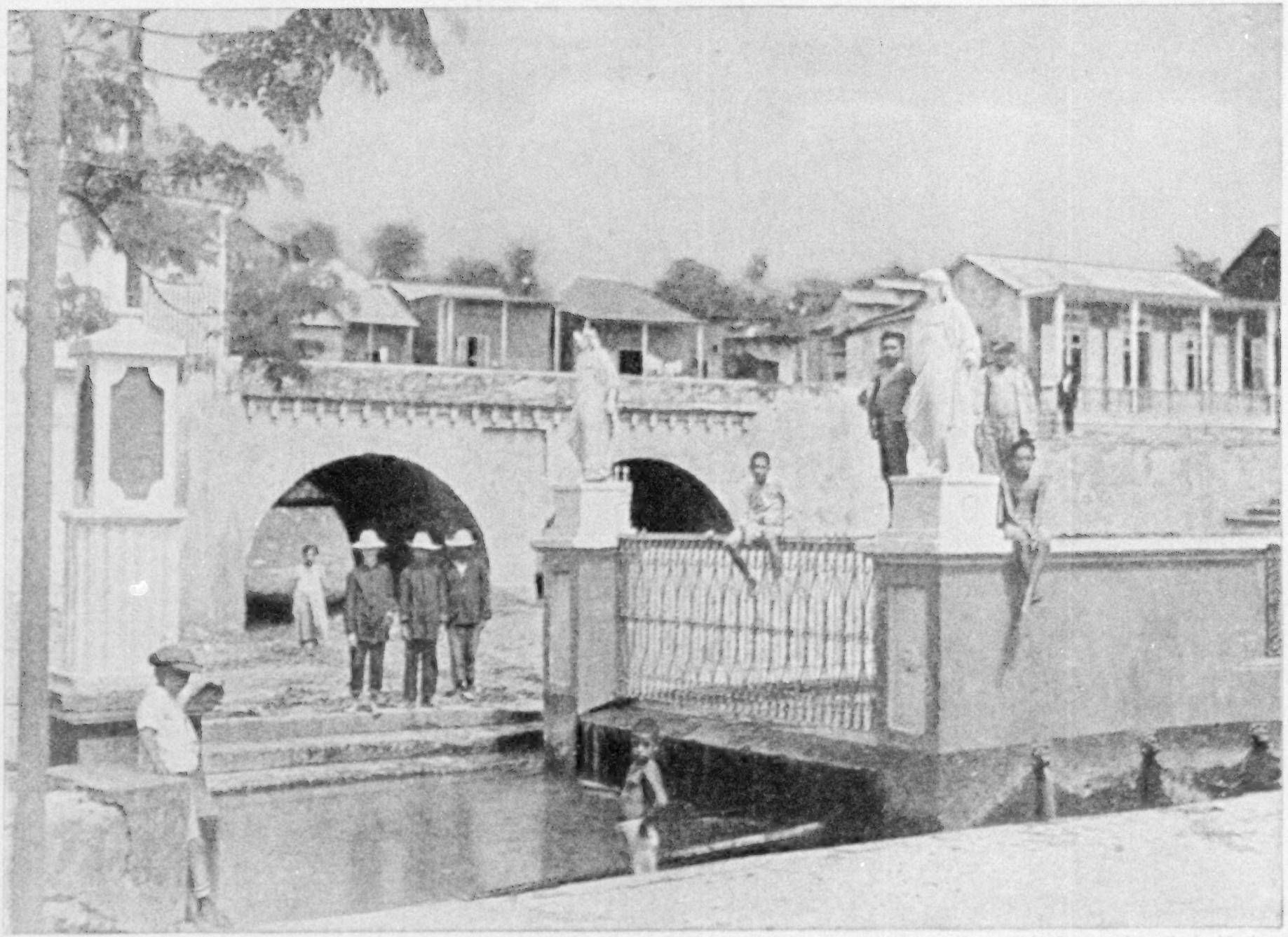
THE FAMOUS LETTER S ROAD: PORTO RICO

Where the mountains rise out of the plains Porto Rican scenery reaches its highest note of beauty. Red-roofed houses, blue mountains, green hills, sapphire seas, golden fruits, brown roads—a symphony of color—all within a single sweep of the eye!



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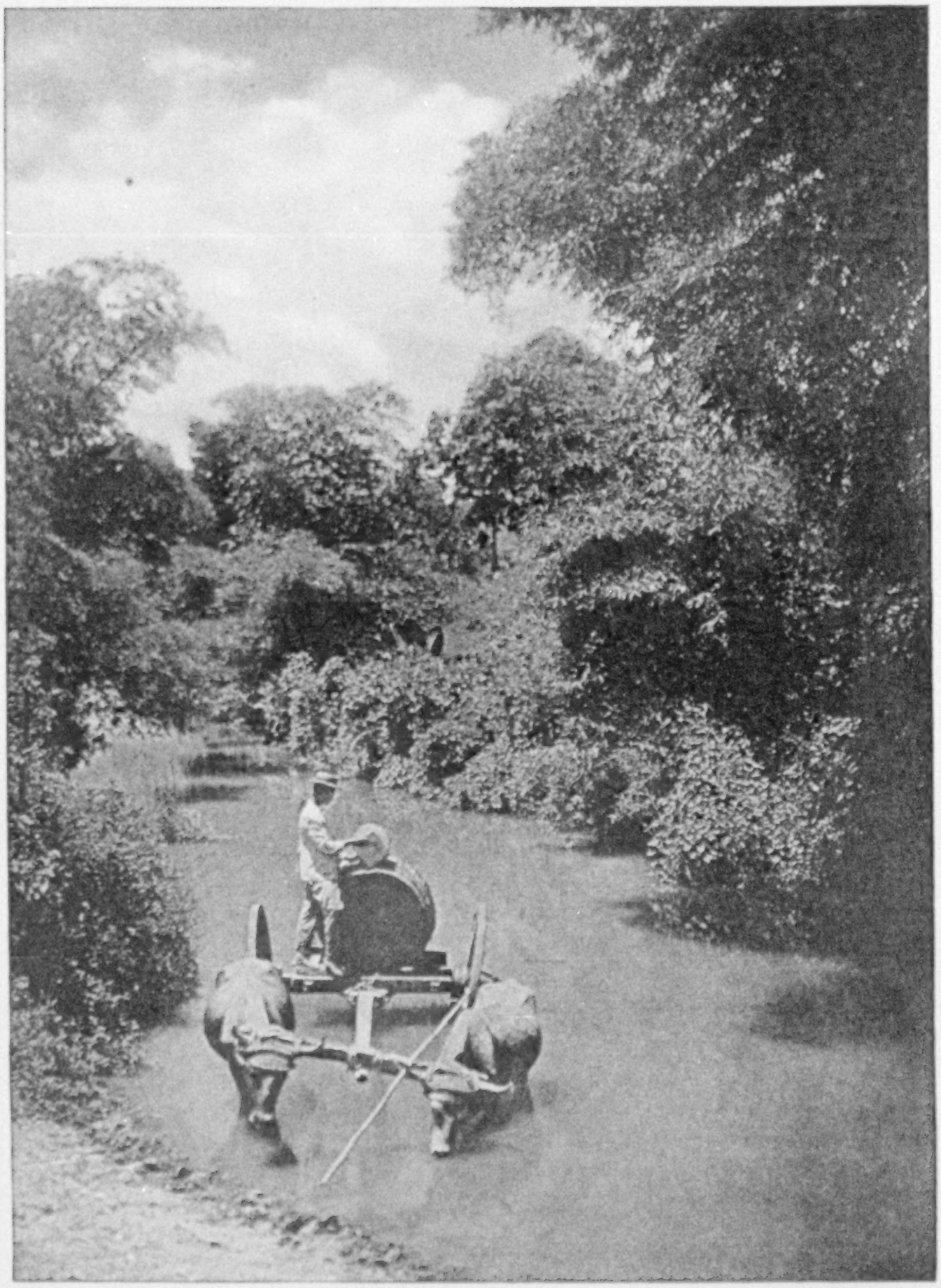
THE FOUNTAIN OF YOUTH IN AGUADILLA

In the center of the attractive seaport of Aguadilla, on the northwest coast of Porto Rico, is this basin whose waters are fed by the same spring from which Columbus filled his water casks when he discovered the island. Among the Americans of the town it is called "the fountain of youth"—suggestive of the important rôle played by Ponce de Leon in early Porto Rican history.



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A PORTO RICAN VERSION OF THE WATER WAGON

The masses of Porto Rico lack both wells and cisterns, and on the plains have few springs. Oxcarts and donkeys take the place of pipe-lines in the interior.

© Natural Color Photograph by Charles Martin

WHERE THE GRAPEFRUIT REACHES PERFECTION

Before the American occupation, Porto Rico had no international fruit trade. Now grapefruit, pineapples and other tropical fruits from the island reach many markets.

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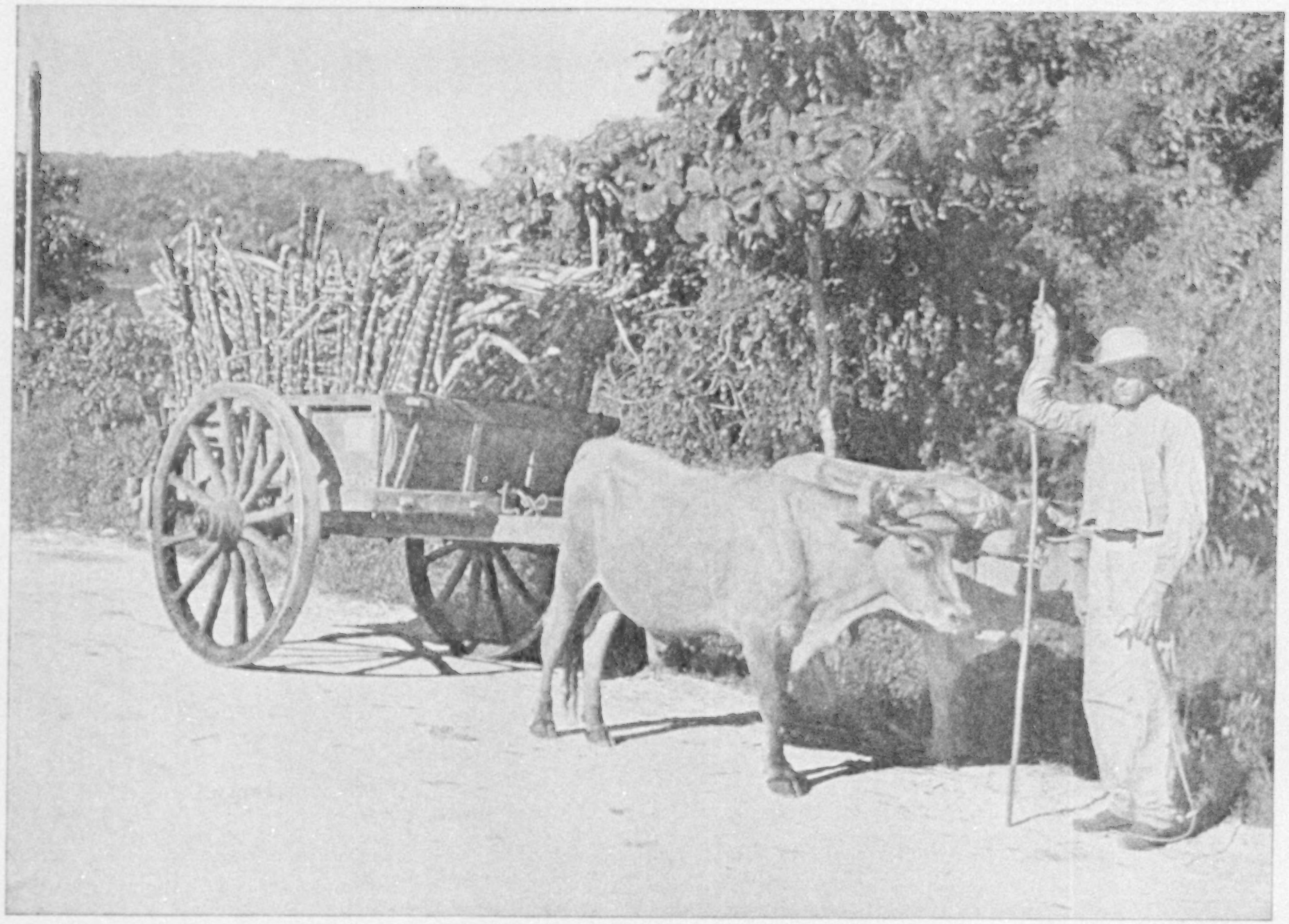
Natural Color Photograph by Charles Martin

A PEASANT'S THATCHED HUT WITH A BOUGAINVILLEA IN BLOOM

This graceful vine belongs to the Four-o'clock family and is named for a distinguished French Admiral who, it is said, introduced it into the Bahama Islands. It is easily grown, so *grandee* and *jibaro* alike may bedeck their dooryards with it.



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Natural Color Photograph by Charles Martin

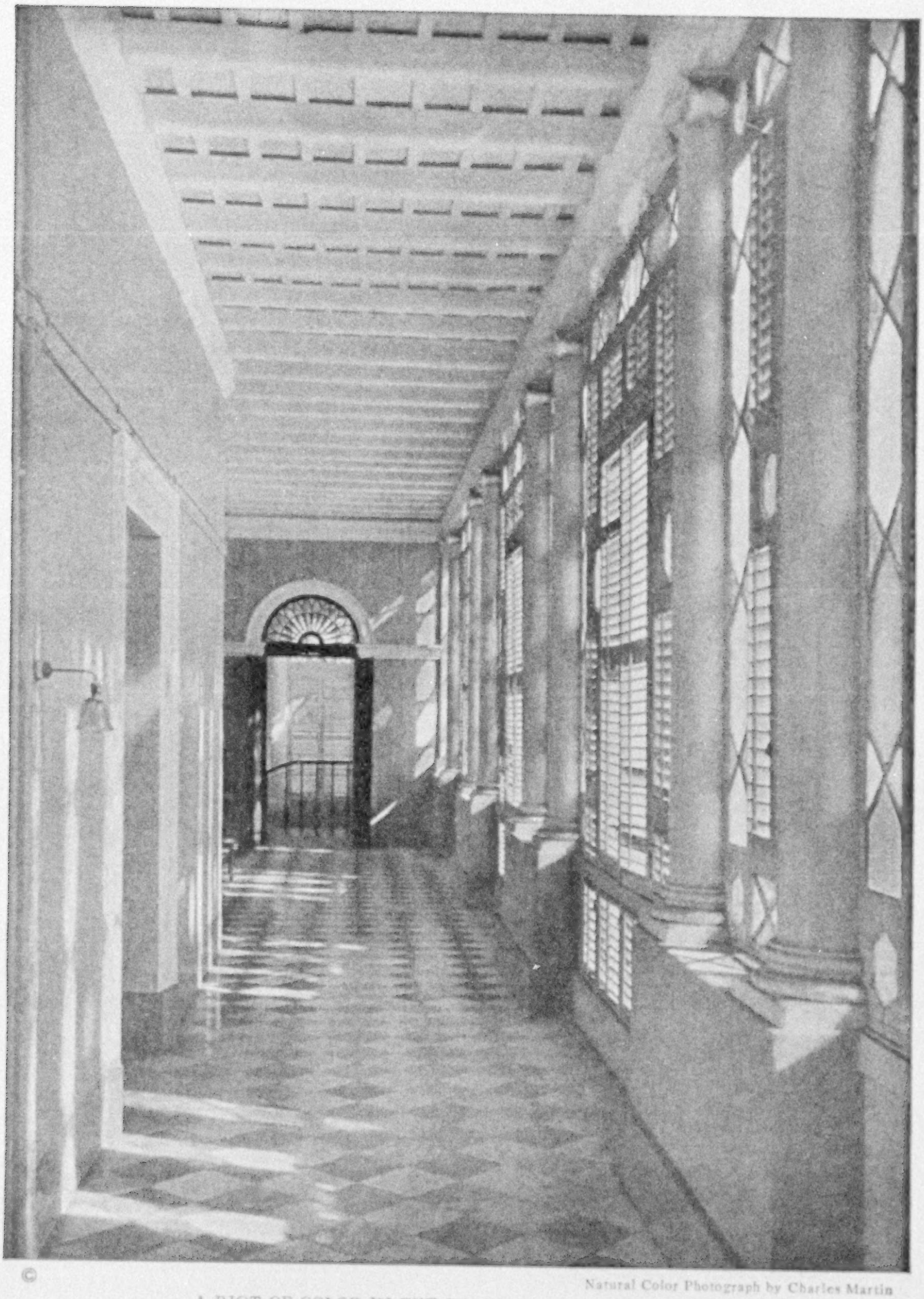
HEADED FOR THE SUGAR MILL

Ten thousand bull-cart chauffeurs keep the sugar-laden cane moving in to the big mills when the season is at its height. Cane blades are the ration of the oxen during the harvest.

© Natural Color Photograph by Charles Martin

A ONE-DAY RIVAL OF HAWAII

The favored soil of Porto Rico's coast lands produces pineapples of the finest flavor. A tall glass filled with ripe pineapple juice and crushed ice, locally known as *piña fria*, is a truly delightful drink.



© Natural Color Photograph by Charles Martin

A RIOT OF COLOR IN THE PORTO RICAN WHITE HOUSE

Casa Blanca, the Governor's Palace, was once the Fortaleza, built in 1535. It is charmingly situated, overlooking San Juan harbor, and the rainbow effects within are in restful and pleasing contrast to the immaculate white of its exterior walls.

XUM

© Natural Color Photograph by Charles Martin

A PORTO RICAN DEBUTANTE

Her flashing eyes, black hair and olive complexion are indicative of her descent from Castilian forefathers who maintained their racial purity in the land of their adoption.

their inlaid, carved, and sometimes jeweled fans of silk or feathers to enhance their natural beauty (see Color Plates III and XII), and the men, with their velvet or alpaca coats, white trousers, and multi-hued silk sashes, make a picture one can never forget.

SIMPLE AMUSEMENTS IN THE VILLAGES

The average market place on Sunday is a riot of color and a beehive of animation. Afoot and on donkey-back, the peasant folk throng the roads, bringing flowers, vegetables, and fruits on their heads and in panniers slung on burros or hauled in creaking oxcarts.

The rural and village people have very simple amusements. The baptism of an infant is the occasion of a feast or a dance. From Christmas to Three Kings' Day, January 6, a succession of *fiestas* takes place. A pig roast, resembling the familiar barbecue of our Southern States, is one of the culminating events of the native calendar.

On the eve of Three Kings' Day, commemorating the bringing of gifts to the new-born Babe of Bethlehem, the children put bundles of grass under their beds or outside the house, so that the camels of the Kings will stop at their homes when their masters are distributing gifts.

SPANISH INFLUENCE STILL PREDOMINANT IN AGRICULTURE AND COMMERCE

One of the interesting phases of the life of Porto Rico is the persistence of Spanish influence in agriculture and commerce. In spite of a quarter of a century of American occupation, three-fourths of the investments in the island are Spanish-controlled and more than a third of the net profits of all industry are sent to Spain. The hold of the Spanish houses on foreign and internal trade alike has prevented all save a few native Porto Ricans from acquiring a knowledge of or skill in mercantile pursuits. Usually the more responsible positions in the countinghouses and other business establishments are filled by young men brought over from Spain.

Thus, although the wealth of the island has increased amazingly since the advent of America, most of it has been kept in the hands of the old Spanish houses. The proprietors of more than a thousand of the best estates live in Spain all or most of the time. They are little interested in the social welfare or economic development of the people. The attitude of many of them seems to be largely that of absentee landlords in general—to get all they can out of their properties at as little expense as possible.

MANY SPANISH CUSTOMS ARE PASSING

While many of the customs of Spain persist and lend a picturesqueness to the life of the people, which it is hoped will never pass, others are disappearing with astonishing rapidity.

Coeducation, for instance, is breaking down the old-time aloofness between the sexes. From the primary department through the university, one notes a profound modification of the conventions of Spanish days. The spirit of comradeship between boys and girls and young men and young women is everywhere in evidence, and European traditions of segregation are generally disappearing.

The schoolhouses, built of concrete and designed to meet tropical conditions, are setting architectural standards for many communities, and gradually the children are learning to think in English. Through them the process of making Porto Rico bilingual is going forward with gratifying rapidity.

The physical aspects of Porto Rico are, of course, in large measure controlling factors in the pursuits of its masses.

The interior of the island is peculiarly rugged. One passes upward from the coastal belt, where the highways are bordered with green- and red-leaved false-almond trees, through a fringing labyrinth of hills massed with laurel and *bucare* trees, across deep valleys and sheer canyons, to the mountains, where the tree-ferns begin.

THE ISLAND'S ARID REGION

Going diagonally across the island from San Juan to the southwest, one comes to a coastal strip that is different. The rain clouds scurry over it and leave it arid. The blinding sun beats down upon it and blisters it. Indeed, after passing through the verdant areas from the northeast coast and arriving in this region, one begins to feel with Ruth Kedzie Wood,

COCONUTS AT MAYAGÜEZ

Numerous lagoons are found in the lowlands along the coasts of Porto Rico, many of them fringed with feathery palms. Ten species of palms grow in the island, but the variety shown above, the coconut, is the most familiar in the developed regions.

that Nature seems to have been so profligate with fertile soil that she miscalculated the supply and spent it too prodigally elsewhere.

CLIMATE IS RESPONSIBLE FOR THE STRAW-HAT INDUSTRY

This very fact is responsible for one of the island's most interesting industries—the manufacture of straw hats.

There is a palm that flourishes in just such a climate. It grows wild, to a height of about eight feet, and has broad, fanlike leaves.

The young leaves are of a fine texture and turn almost white when dried and bleached. These are cut green and laid out, like linen, on the grass to bleach. Two of the finer leaves provide sufficient material for a hat and cost the hatmaker 75 cents each. Less perfect leaves become creamy instead of white and bring 25 cents each.

The bleached leaf is cut into narrow strips, and in making the finer hats the fiber is laid out on the grass to absorb the dew. In the early morning, when the strips, scarcely one-sixteenth of an inch in width, are soft and pliable, feminine fingers begin weaving them into hats. First comes the little disk in the center of the crown, and then the widening circles that grow ultimately into crown and brim.

As soon as the dampness begins to leave the fiber, work is suspended. Often the available hours of a two-month period will be spent in fashioning one of the high-grade Porto Rican "panamas," and it may bring the weaver as much as $40. The hats are disposed of at the weaver's own doorstep. The more coarsely woven hats, with their deep cream tint, cost

THE PLAZA OF QUEBRADILLAS

True to Spanish traditions of city-building, each Porto Rican town has its central plaza, usually dominated by a church.

much less and can usually be finished in two or three days.

The demand for these hats of both grades would be far greater if some intelligent advance were made in producing a better variety of shapes and styles, for not many men find them becoming or as "snappy" as the stiff-brim straws.

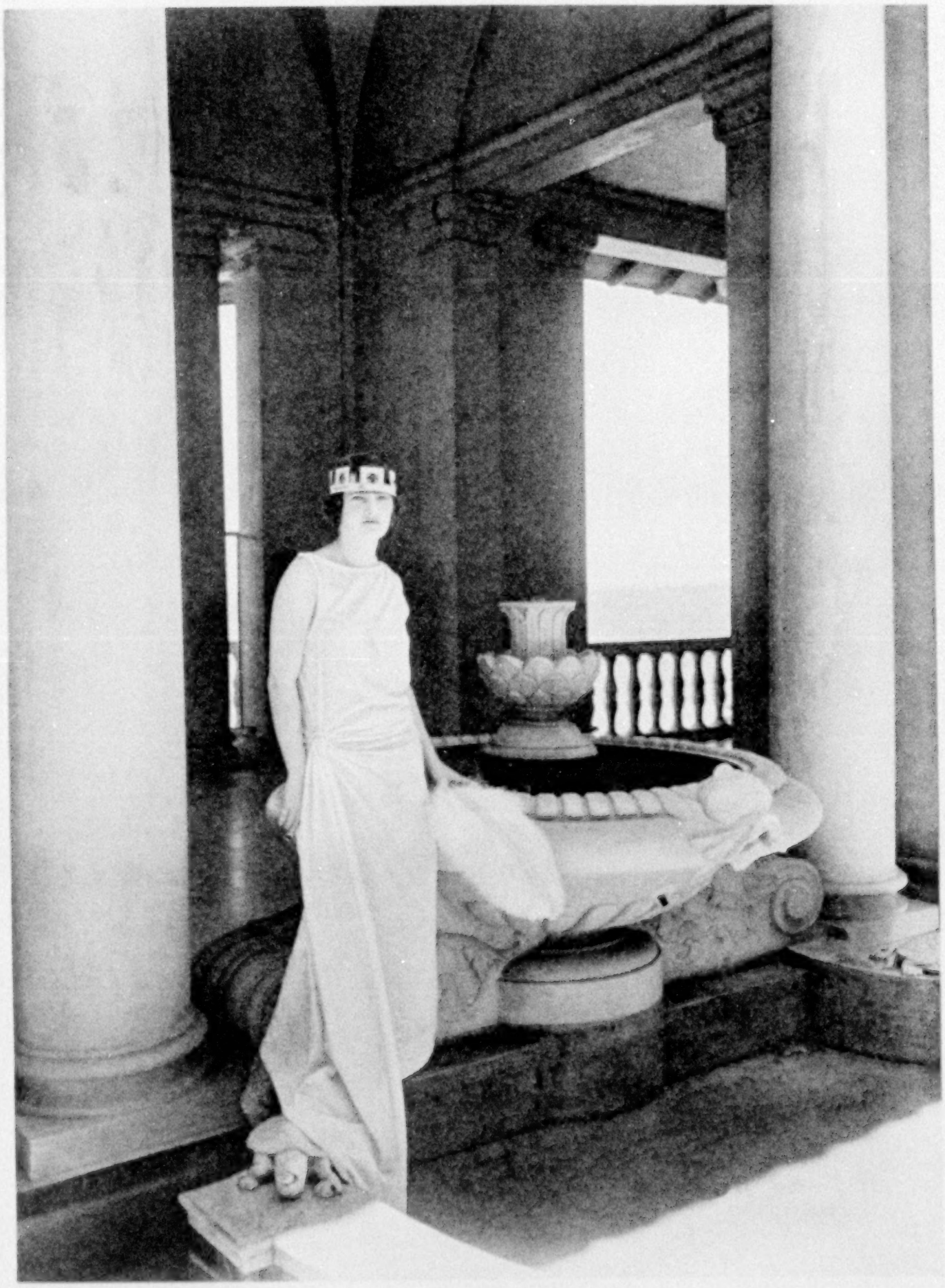
The needlework of the island is its most considerable manufacturing industry.

Materials are imported, cut out, and distributed to the homes of working housewives, who make blouses, dresses, lingerie, embroideries, men's shirts, and other wearing apparel on the piecework basis.

The plant life of Porto Rico is full of interest, both from an esthetic and a scientific standpoint. Nowhere does one find flowers in richer profusion or offering more brilliant hues to the eye (see Color Plate VIII). The fact that its flora is closely related to that of Haiti and Cuba rather than to the other Caribbean islands bears witness to the geological affiliation of the three.

A BOTANICAL PARADISE

One soon discovers that the island is a botanical paradise. Many species of plants are peculiar to it. On the sand barrens around Laguna Tortuguero, on the north-central coast, within a radius of a single mile, a dozen different plants are found that are known nowhere else

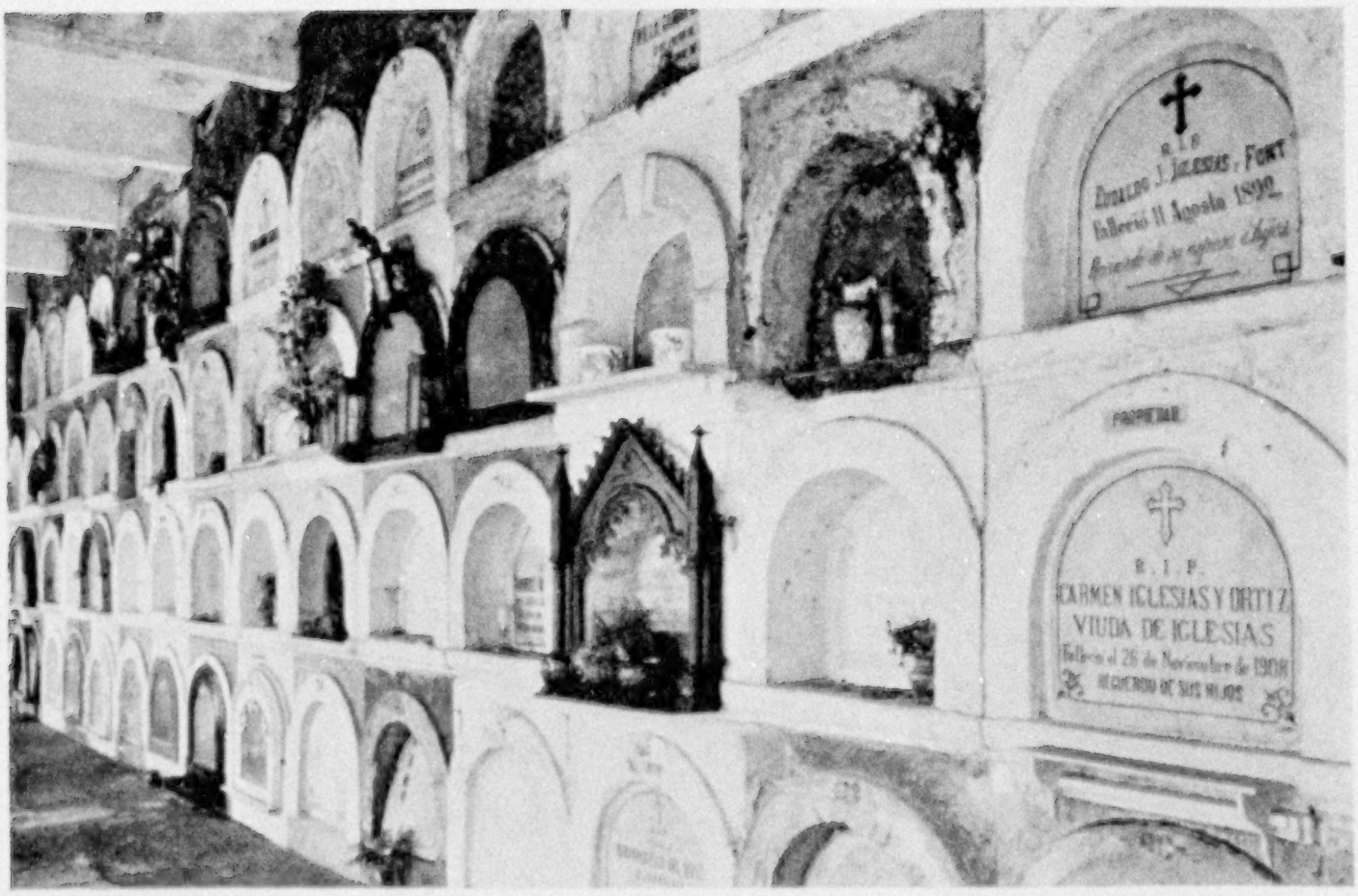


THE QUEEN OF SAN JUAN'S 1924 CARNIVAL

The carnival spirit is marked in Porto Rico, as in all Latin countries. In San Juan during the festive season there is a magnificent parade by day and a series of grand balls at night, presided over by the queen and her ladies-in-waiting. A custom, perhaps left over from the days of the Spanish Inquisition, is the use of squirt-guns attached to glass bottles of ill-smelling cologne. One peculiar form of humor is to send a spray of this fluid into the eyes of the dancer or onlooker, causing temporary distress and retirement.

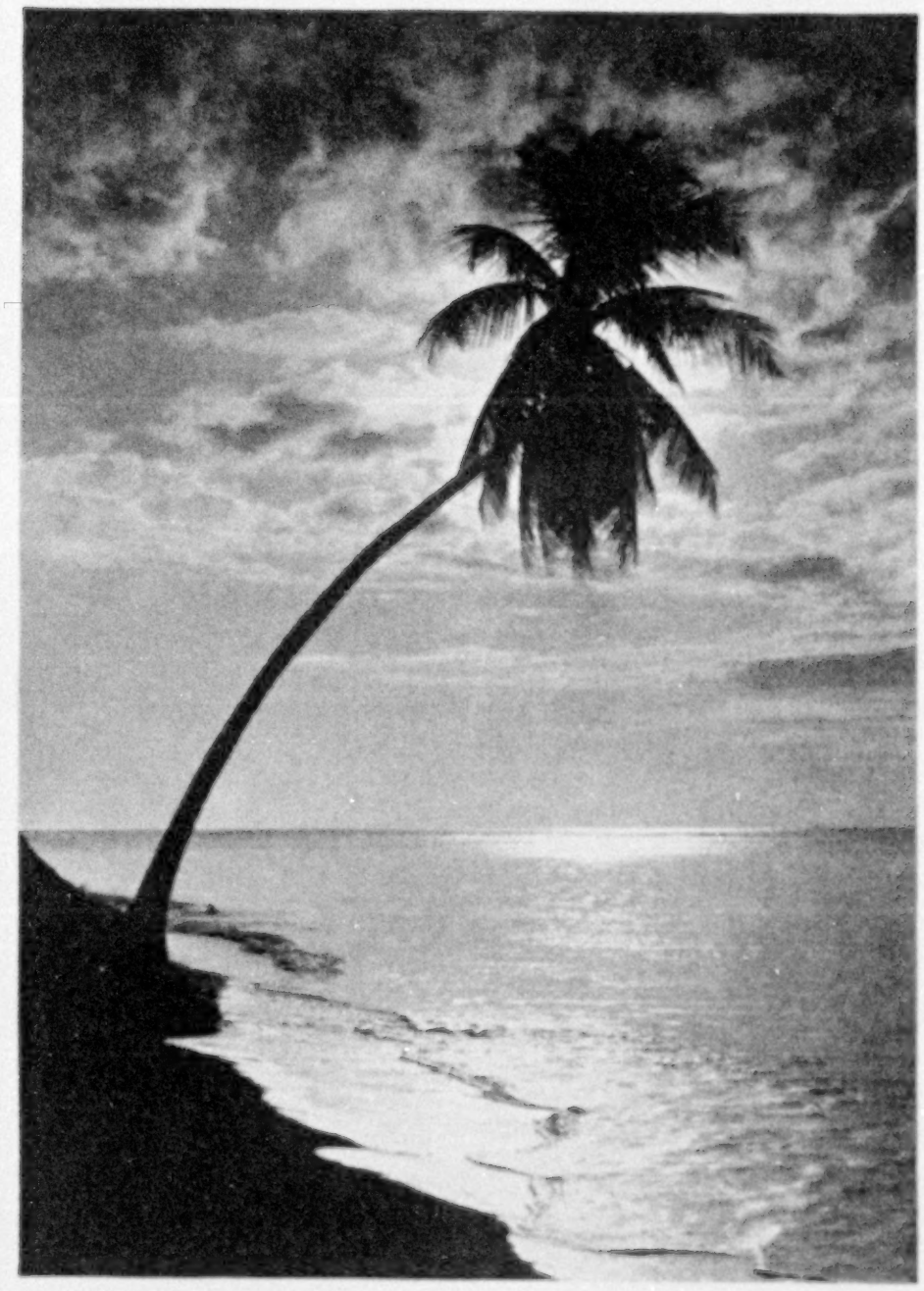
INSULAR POLICE AT DRILL IN SAN JUAN

Porto Rico's constabulary has been a potent factor in the remarkable development of our West Indian possession during the past twenty years. The force, consisting of only 729 men, protects the entire population of 1,300,000, policing alike cities, villages, and rural districts.



WHERE THE DEAD DO NOT ALWAYS REST IN PEACE

Burial vaults in this San Juan cemetery are leased by the year, and if rents are unpaid it becomes the job of the cemetery attachés to "move the bones." The remains of dispossessed tenants are deposited in a common grave without much formality.



Photograph by Frederick E. Cook

A TROPICAL MASTERPIECE

in the world. Mosses flourish even on the telephone wires in Ponce (see p. 649).

The marine life in the vicinity of Porto Rico is notably abundant. There are 59 different kinds of shrimps and spiny lobsters to be found in its waters, and in San Juan harbor alone 49 kinds of starfish and 162 kinds of crabs have been collected. One species of the latter, a large land crab, frequently migrates to the sugar lands and does great damage to the crop.

There are no alligators, crocodiles, skunks, toads, or native rabbits on the island, and the only snake of importance is one of the boa-constrictor type; but there are ten common types of lizards, ranging from the small tree-climbers to the large land-runners. Of the several kinds of frogs, the little "co-kee" tree frog is the most interesting. It gets its name from its notes, "co-kee," and some wag has dubbed it the principal song bird of Porto Rico. Any one who has heard its cheery little call will appreciate the sobriquet.

The mocking bird, the euphonia, the troupial, and the yellow warbler are the leading songsters, and goldfinches, woodpeckers, yellow-shouldered blackbirds, humming birds, and herons also abound; but on the whole, owing to the denseness of the human population, one sees far fewer birds in Porto Rico than in most tropical countries. As a factor in the shortage, the perennially hungry jíbaro and his family improve every opportunity to kill a bird for their frying pan, and rob its nests of its eggs.

Some years ago the mongoose was imported into Porto Rico from India, in the hope that it would aid in ridding the cane fields and tobacco lands of rodents; but birds and eggs as well as mice and rats are "skittles and beer" to the appetite of the mongoose.

PORTO RICO IS AWAKENING TO NEED FOR GOOD HOTELS

The chief drawback to tropical travel in the countries of the Caribbean is the lack of good hotel accommodations. One finds excellent hotels in Jamaica; there are a number in Cuba, one in Venezuela, one in Salvador, and so on, but for the most part the hotels in the Tropics are not clean, according to our standards, and rarely are comfortable. The traveler must become reconciled to conditions he would not tolerate in an American hotel. Porto Rico is awakening to this need, however,

for there is a large new and thoroughly high-class hotel in San Juan that compares most favorably with those of our mainland cities.

PROSPEROUS URBAN CENTERS OF THE ISLAND

While San Juan, with more than 70,000 inhabitants, is the capital and chief seaport of Porto Rico, there are some half dozen other prosperous and populous urban communities.

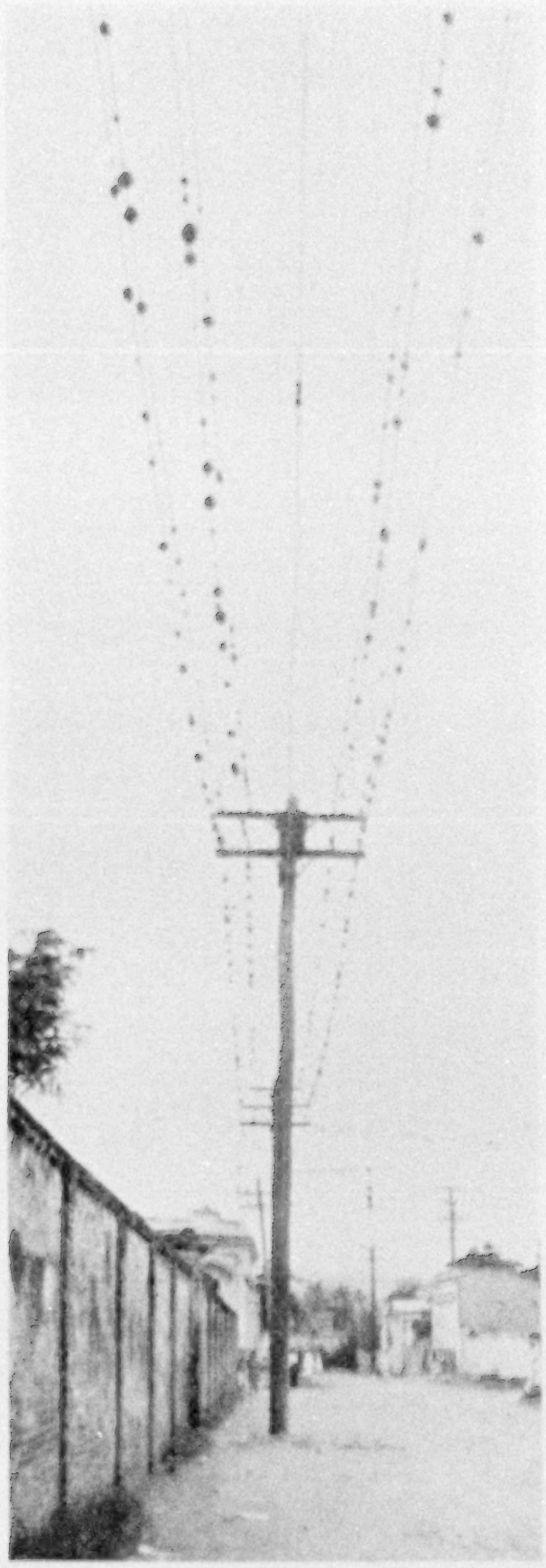
Ponce, on the south side of the island, has been called the Porto Rican "cradle of liberty," for it was here that the native intellectuals gathered when they found the rule of the north side of the island too severe. They formed the Autonomous Party in 1887 and started the agitation that ultimately won over the Spanish Government to a liberal policy toward its Porto Rican subjects.

Mayagüez, with its excellent harbor, is the San Francisco of Porto Rico. Situated on the west coast, at the foot of the western end of the Cordillera Central, it has a rich trade and possesses many beautiful buildings.

Arecibo is located on the north coast, about as far from the western end as San Juan is from the eastern. Its hinterland is famous for its sugar centrals. Across that hinterland the Tanamá River and its tributaries roll down to the sea, looking like bands of silver inlaid upon the fine plain, emerald-hued with fields of cane.

Aguadilla, with its memories of Columbus' landing (see page 599) is another delightful spot. In commemoration of that event plans are now going forward for the acquisition of the land surrounding the fountain and the establishment there of a beautiful park in honor of the great admiral's expedition to Porto Rico (see Color Plate V).

Bayamón, nestling in the bosom of beautiful hills; Caguas, standing at the crossroads of the eastern half of the island, in a splendid valley near the banks of the Rio Grande de Loíza; Guayama, directly across the island from San Juan as Ponce is from Arecibo; Aguas Buenas, celebrated for its coffee; Añasco, on the west coast, where tradition says the Indians rose against the Spaniards and tested the latter's claim to immortality by murdering all the white men outside the



Photograph by H. J. Young, from Wm. E. Rae

DOTS AND DASHES IN THE "MOSS CODE" ON PORTO RICAN TELEGRAPH WIRES

Queer tales have been told about the West Indies since Sir Walter Raleigh's solemn statement that in Trinidad "oysters grow on trees." One of the true fairy tales is that a species of moss grows on telegraph and telephone wires in Porto Rico, sustained entirely by the moisture-laden air. This photograph was taken in Ponce, second city of the island.

PORTO RICO IS NOTED FOR ITS FLOWERING TREES AND VINES

This gorgeous vine with a delicate fragrance—*Ixora coccinea*—is called the "Man's Heart." It is white during the day and red at night.

BEAUTIES OF MAYAGÜEZ, "THE SAN FRANCISCO OF PORTO RICO"

Many of the leading families of the island are of pure Spanish descent. Hundreds of great estates and many industries are owned by Spaniards, who remain on the other side of the Atlantic and manage their affairs through Spanish agents.

protected settlement, and other towns will afford the motorist new phases of tropical scenery to admire and new conceptions in Spanish architecture to appreciate.

A BECKONING LAND

Porto Rico is indeed a beckoning land to all who would follow the sunshine and flee the rigors of northern winters. Who goes there will return to his own hearthstone with a wealth of pleasant memories and also with an appreciation of the fact that no other nation in history has ever created a finer record in colonial administration than our own United States has written for itself in our beautiful El Dorado of the Antilles.

© Central Aerophoto Co., Ltd.

SAINT MICHAELS MOUNT, OVERLOOKING THE HARBOR OF PENZANCE (SEE TEXT, PAGE 674)

There are many legends connected with this majestic counterpart of the famous Mont St. Michel of France, among these being the tradition that it was here that Jack did his giant-killing. Penzance is familiar to American readers as the home of the "Pirates," of Gilbert-and-Sullivan comic opera fame.

A CHAR-À-BANCS IN CORNWALL

By Herbert Corey

Author of "Along the Old Spanish Road in Mexico," "Adventuring Down the West Coast of Mexico," "Andorra, a Unique Republic," etc., in the National Geographic Magazine

THERE may be a more beautiful county in England than Cornwall, but I doubt it.

Even as I write, uncertainty assails me. It is manifest that not every one agrees. On the desk lies a quotation from some forgotten writer, who calls the 70 miles from Launceston to Mounts Bay the dreariest stretch ever traversed by an English highroad.

One recalls the vast moors, dull, dun, and bare, on which the only interruption to the eye's range is an occasional ruined pithouse, through the gaps in which one glimpses the blue sky; or a tumbled heap of earth where once Phœnician tin miners, perhaps, sought the metal which a Cornish historian once declared "near as fyne as sylver."

At long intervals a cottage is encountered of dour gray granite, roofed with granite, breastplated against the driving rains with slate, in a granite-walled inclosure, with never a shrub or tree to vary the cold monotony with a touch of green.

Yet I shall stand by that first judgment. Cornwall's charm is one of enchantment. Its moors are broken by hidden valleys, the existence of which one does not suspect until their lips are reached, filled with the greenest grass, from which great trees tower. The hedges that rim in the roads, worn down by centuries of traffic, glow with the purple of foxglove and the yellow of the furze. In an hour's drive one passes from cliffs of a savage, sheer hostility, at whose feet break the most dangerous seas in England, to smiling estuaries amid rolling hills on which the green of English oak alternates with glowing fields.

CORNWALL'S PLACE IN ENGLISH HISTORY

History and tradition play their part in creating Cornwall's charm. It was on Cornish shores that galleys landed in search of tin long before the Roman rule in England. Local tradition holds that Jewish traders gave its name to the little village of Marazion—Bitter Zion—which is at least as often called Market Jew by the country people as by its own name. It is a pity that archeologists laugh at this fanciful etymology.

Offshore the Land of Lyonesse lies sunken with its 140 parish churches, whose bells, the fishermen say, may still be heard on days of onshore storms.

Cornwall was one of the first counties of England to be Christianized, and almost the last to be subdued by the Saxon invaders. The ruins of King Arthur's castle may still be traced on the headland of Tintagel, and the story of Merlin the Enchanter is preserved, if not believed.

Cornwall played its part in almost every English war, and the letter of King Charles I to his faithful people still holds a place on the walls of Cornish churches. Edward, Prince of Wales, is Duke of Cornwall because 600 years ago that honor was granted the eldest son of the reigning king.

It is not many years since wrecking was an established industry there, and the parson's lame mare, with a ship's lantern tied under her neck, was set to hobble of an evening along the sands, to toll bewildered shipmen on the rocks. Cottagers drop pins in the holy wells and read their fortunes in the bubbling of the disturbed waters.

NAMES AN EVER-CHANGING DELIGHT

The county names are an ever-changing delight. Can there be a more charming title for a church than St. Just in Roseland? One crosses by Slaughter Bridge straight into a remote and furious past.

Almost every little seacoast town has its smugglers' cave with a well-authenticated history. From the Lizard the Spanish Armada was sighted and alarm fires were lighted. During Cornwall's all-too-intermittent spells of prosperity, miners emerge from workings beneath the sea and climb ladders pinned to gigantic cliffs, singing as they mount. Oranges and lemons and exotic palms grow in the balmy air.

XUM

THE INNER HARBOR OF FALMOUTH

Among the interesting sea relics in this quiet harbor is the hull of the battered frigate *Duguay Trouin*, captured by Nelson at Trafalgar.

Photographs by Herbert Corey

A STRICKEN SUBMARINE IN FALMOUTH HARBOR

The climate is so mild on this part of the Cornish coast that in the spacious grounds of the Falmouth Hotel, in the right background, oranges, bananas, and lemons bear fruit in the open.

Photograph by Herbert Corey

A BACK DOOR IN FALMOUTH (SEE TEXT, PAGE 669)

It was in Cornwall that George Fox, Quaker, was chained in a noisome dungeon for months. Here John Wesley preached to congregations of 50,000, in an amphitheater, built, perhaps, by the heathen.

It was on the border of Cornwall that girt Jan Ridd rode against the Doones, and John Ridd is still a warden in the very church in which Lorna Doone was shot down at the altar. Clovelly is just across the line in Devon, and I shall ever maintain that Clovelly is the loveliest village in the world.

Battered German submarines lie on the rocks below Castle Pendennis, and their neighbor in the River Fal is the porthole-girt hull of an ancient frigate. The gilt still glistens on her saucy prow to match the sparkling of the sun in the windows of her balconied stern cabin. She was once the *Duguay Trouin* and was captured at Trafalgar, her decks running with blood.

CORNISHMEN A RACE APART

It is a painful confession to make, but I had not looked forward to Cornwall with rejoicing. Somehow jumbled impressions had grown in my mind, in which only the worst had found lodgment. I thought of it as cold, bleak and inhospitable, inhabited by a race that alternated between extreme drunkenness and the most implacable form of evangelical Christianity.

This is not an apology for error, but a statement of it. Perhaps my misunderstanding was founded upon the unworthy prejudice which is still to be found in certain of our mining States against those excellent men known there as "Cousin Jacks."

Cornwall furnished and still furnishes the best hard-rock miners in the world. They despise coal mining, do these men whose ancestors have for generations searched for tin and copper in mines that are at once among the deepest and the most meagerly equipped in the industry. Where gold or silver or copper is to be burrowed for under mountains, they are to be found as leaders in their craft. However, because of their extraordinary clannishness and their strongly marked racial and individual idiosyncrasies, they often do not impress themselves on the popular affection.

Photograph by Herbert Corey

CHARS-À-BANCS IN CORNWALL

These motor vehicles have done much to simplify travel in England (see text, pages 665-666).

One recalls them in our Western States, in an environment at once foreign and hostile, as harsh and silent men, who put a high estimate on themselves and were candid, and perhaps justified, in their doubts of the rest of us. Their more sociable moments seemed devoted in almost Masonic secrecy to the discussion of an iron-bound religion.

Between times, a Cousin Jack here and there would give himself over to Gargantuan revels. The combination of alcohol with a temperament that seems capable of extreme exaltation in a physique framed to resist the most exacting toil was not infrequently an unfortunate one.

KINDLY AND HOSPITABLE ON THEIR NATIVE HEATH

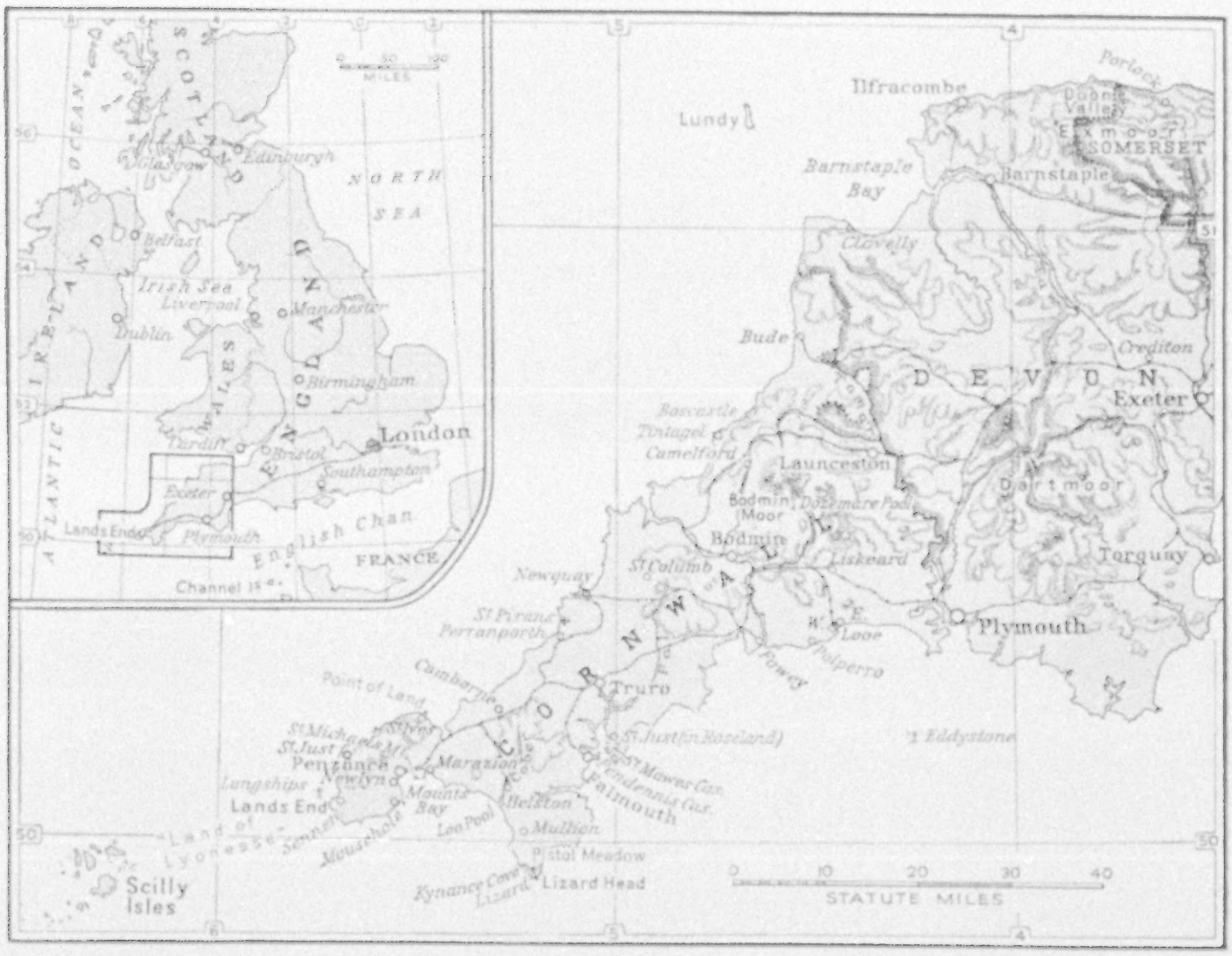
It is difficult now for me to understand our Western misconception of the Cornish character. Certainly no more kindly or hospitable man exists than the Cornishman upon his native heath. Yet the Cornish are assuredly a race apart, just as Cornwall differs in aspect from its neighboring county of Devon.

Formed of a union of the primitive tribes and the Brythonic race, which gave its name to Britain, and only slightly modified, according to students of the race history, by succeeding invasions of Romans, Saxons, and Norsemen, they kept their own language until well into the 18th century. They still speak of "going to England," as if it were a foreign country.

They gave us the Cornish style of wrestling, which calls for extreme endurance, strength, and agility. They are also charged with the invention of "purring," a hideous form of sport, in which the contestants were forbidden the use of their hands, but kicked at each other with their iron-shod mining boots.

Cornwall is the southwesternmost county of England. It is a great promontory, 75 miles in length, armored against the sea with granite, slate, and serpentine, and 45 miles wide at its greatest, where the River Tamar bars it from Devon. It contains approximately 1,356 square miles and 300,000 people.

Thanks to the Atlantic Ocean and the Gulf Stream on one flank of its triangle, and to the sheltered waters of the Eng-



Drawn by Charles E. Riddiford

A MAP OF CORNWALL

The Cornish Riviera is the name given to the magnificent southwest coast of England, which is equally popular as a summer and winter resort. The county of Cornwall is somewhat larger than our State of Rhode Island.

lish Channel on the other, its climate is in great part so extraordinarily warm and equable that enthusiasts refer to its coast as the Cornish Riviera.

It is true that snow seldom lies, and it is also a fact that in a comparison of average mean temperatures the advantage would be altogether in favor of certain Cornish watering places as against the winter climate of the Mediterranean coast.

Yet one should not take these assurances altogether at their face value. The winds of Cornwall are so rough that in the uplands the few small bushes one sees are dwarfed and twisted, and about Lands End the windowpanes are ground to opacity by the blowing sand.

THE 10:30 EXPRESS A BRITISH INSTITUTION

One takes the 10:30 express from Paddington Station when one leaves London. An American finds it difficult to understand the almost sanctified quality of the 10:30 express. It is a British institution, like St. George and the Dragon, or the Horse Guards. To travel by it is almost to receive a brevet of social desirability.

The hotel porter's tone changes when he learns that his departing guests will take the 10:30 express, and the taxi driver tells one in simple faith that it is the best train in the world. Perhaps it is, although it is not so fast as some of our fliers, the war has dimmed its upholstery, and the meals in the dining car are served on what an automobilist would call the "splash" system.

But the 10:30 from Paddington is one of the last remaining refuges of British conservatism. Its passengers are almost to a man and woman Britons of good family and reduced incomes. American and other tourists are rarely to be found on it, for few who "do" Europe on the

Photograph by Emil P. Albrecht

LOOE ISLAND, OFF EAST LOOE

Until the last century this was a prosperous haunt for smugglers; but "business is no longer what it used to be," and numerous rabbits are now sole tenants of the island.

Photograph by A. W. Cutler

OFF THE CORNISH COAST AT THE LIZARD

The rocks in the central foreground mark the entrance to Kynance Cove, a popular resort during the summer season. The rocks stretching out beyond the Lizard Head are known as The Stags—dangerous tooth points, where many wrecks have occurred (see page 682). Note the goats in the foreground.

Photograph by Emil P. Albrecht

WHEN THE FLEET GOES OUT OF NEWLYN HARBOR FOR ITS CRUISE IN THE FAR NORTH

The boats may be gone for several months, but a small steamer brings in their joint catch periodically to the markets or canneries.

circular-tour plan have time to spare for "the delectable duchy."

The train servants are apt to wear bits of brightly colored ribbon on the left breast, and the porter who carries the luggage has the Mons medal. Half crowns in moderation will still procure the privileges of caste on the 10:30, so that one may stare rigidly through the windows of a reserved compartment at those unhappy persons on the crowded station platforms who refuse to demean their fellow man.

It is 230 miles without a stop to Plymouth, through the charming English countryside. All green and gold and blue sky. Sometimes a castle crowns a hilltop, or a moated farm suggests the days of the first agricultural bloc and Magna Charta. Fat cattle stand knee-deep in some little canal, on which a boat seems preposterously out of place, as it moves slowly through the meadow.

Panting sheep hang their heads in the shadow of the great elms; wainloads of hay are pulled by horses that incongru-

Photograph by Emil P. Albrecht

A SIDE STREET IN NEWLYN

The main street follows the line of the harbor; this runs up the hill. The houses are all of stone—low, solid, and monotonous in color, if it were not for the varied garments that hang drying at their windows and doors.

ously suggest kittens, they are so plump and friendly. Then the moors and a cromlech or so—those extraordinary monuments of uncut stone, now held to have antedated the Druids and which may even belong to a period before the first Celts came to western Europe—then Falmouth, a hotel set in a lawn of emerald studded with flowering plants of an almost tropical luxuriance and an intemperate fragrance, and tea.

AN UNCHANGING LAND

We approached this unchanging land in dignity, and it is perhaps regrettable that immediately after our arrival we should become habitual passengers on the chars-à-bancs that go roaring through the silent country to visit places that can hardly have been altered since the beginning of the Christian Era.

No doubt Diodorus, who wrote of his visit to Cornwall in the time of Julius Cæsar, found Lands End just as it is today, save for a few excrescences of inns and lighthouses and lifeboat stations. The very name has not been disturbed, for Lands End is the Celtic Pen-von-Las, which literally means "the end of the earth." What is the name of the Longships lighthouse, battered by waves on a rock near by, but a translation of *naves*

Photograph by A. W. Cutler

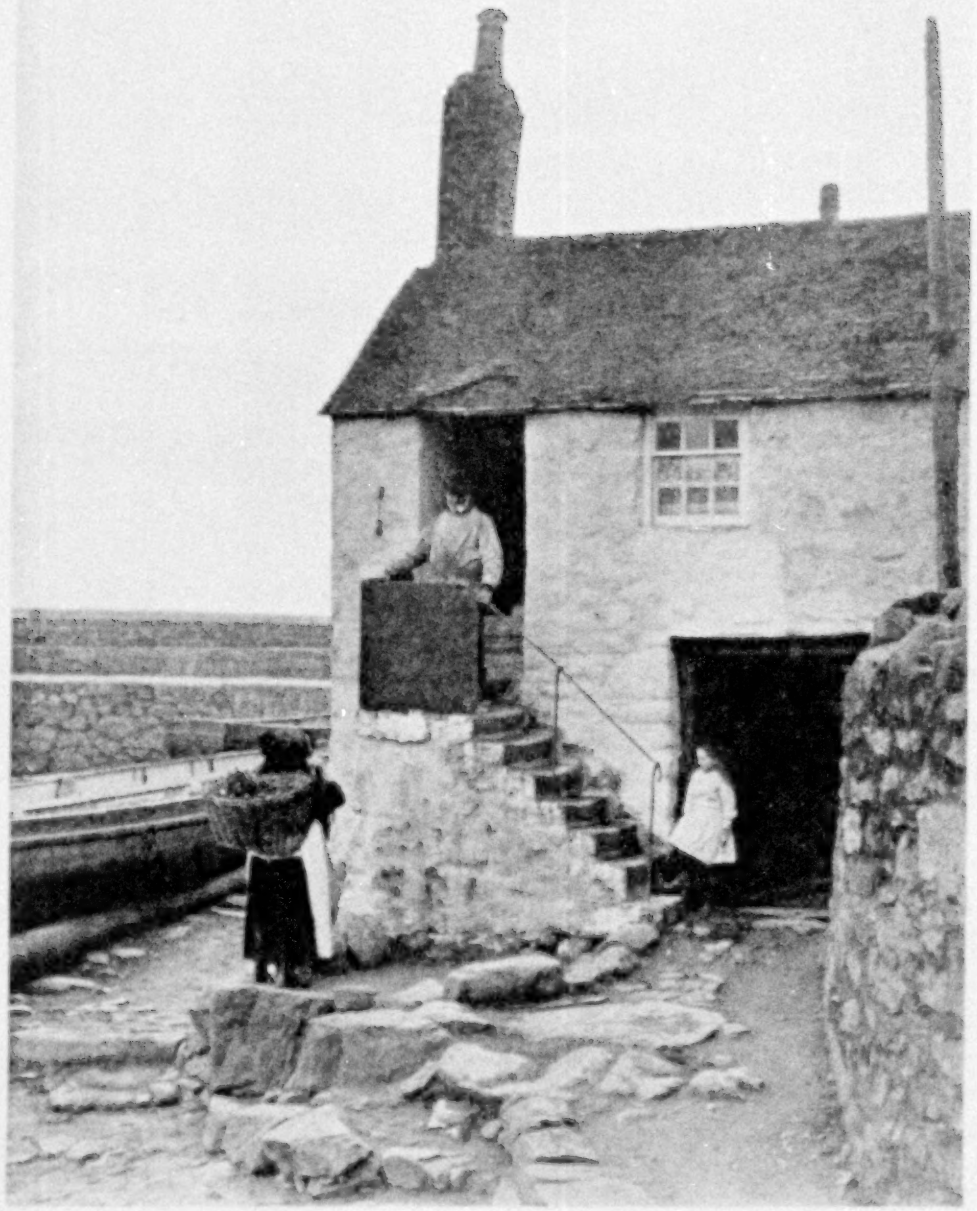
ON THE ROAD TO MOUSEHOLE, A MINIATURE HARBOR NEAR PENZANCE

In a cave near the village of Mousehole tradition says the Phœnicians once mined the tin which Hiram of Tyre may have supplied to Solomon for the Temple in Jerusalem.

MUSEUM

WAITING FOR THE FISHING SMACKS TO COME IN

Quite safe so long as granddad holds you by the hand!



PASSING THE TIME OF DAY NEAR PENZANCE

The fishwife carries, suspended by a strap from her head, a "cawl."

Photographs by A. W. Cutler

GATHERING SEAWEED NEAR PENZANCE

Photographs by A. W. Cutler

ON THE CORNISH COAST

Its occupants maintain that the whitewashed house was originally the only inn in Cornwall, and in a former day was closely associated with the smuggling carried on along this section of the coast.

Photograph by A. W. Cutler

CORNISHMEN OF NEWLYN

Newlyn is one of several English hamlets which lays claim to being "the most painted spot in the British Isles." Among its lanelike streets is one called "Rue des Beaux Arts," where many noted artists have lived.

longæ—"long ships"? And does not the rock on which it stands suggest a Roman galley to one of but a little imagination?

He who doubts should not come to Cornwall. Yesterday seems very near at hand.

"He called me a red-headed Dane, Your Honors," was the defense of a man haled before the magistrates at Penzance. "Your Honors know. . . ."

Of course they knew. During those early centuries the Cornish coast was ravaged again and again by the blonde Norsemen. Even to-day there are families in the neighborhood of Penzance in which the light-haired strain appears at intervals, although Cornishmen are for the most part dark. The trace of that old hatred persists in the historic phrase that still calls for action at Penzance—"He called me a red-headed Dane."

TRAVEL SIMPLIFIED BY CHARS-À-BANCS

All British authorities agree that to do Cornwall thoroughly one must go afoot; but that, I submit, is because the British

Photograph by Herbert Corey

THE KNIFE-GRINDER OF CAMBORNE

Note his method of supplying his grindstone with dripping water. Near this important mining town is the Dolcoath copper mine, which is 2,250 feet deep.

authorities are more interested in the cultivation of the tendon Achilles than in the Cornish landscape. From the clattering heights of the chars-à-bancs we used to see them vigorously heel-and-toeing over the moors, pack on back, staff in hand, calves bulging, paying great attention to pedestrian form and none whatever to Cornwall.

We maintained that it is possible to strike a happy medium. The better part of Cornwall, those delightful villages that bead the sea edges, are to be seen only by walking or climbing. But there are scores of miles of hard, fast road over the moors, on which to walk is an inexcusable waste of time.

Hence the char-à-bancs, which has done so much to simplify travel in England, even if it has taken the romance out of it. There are motor-cars on the roads, of course, from the dignified vehicles with both chauffeur and footman and a lord and lady sitting at vast distances from each other in the rear, to the scuttling two-seaters, which simply cannot make their piping horns heard by the pilots of the tourist cars.

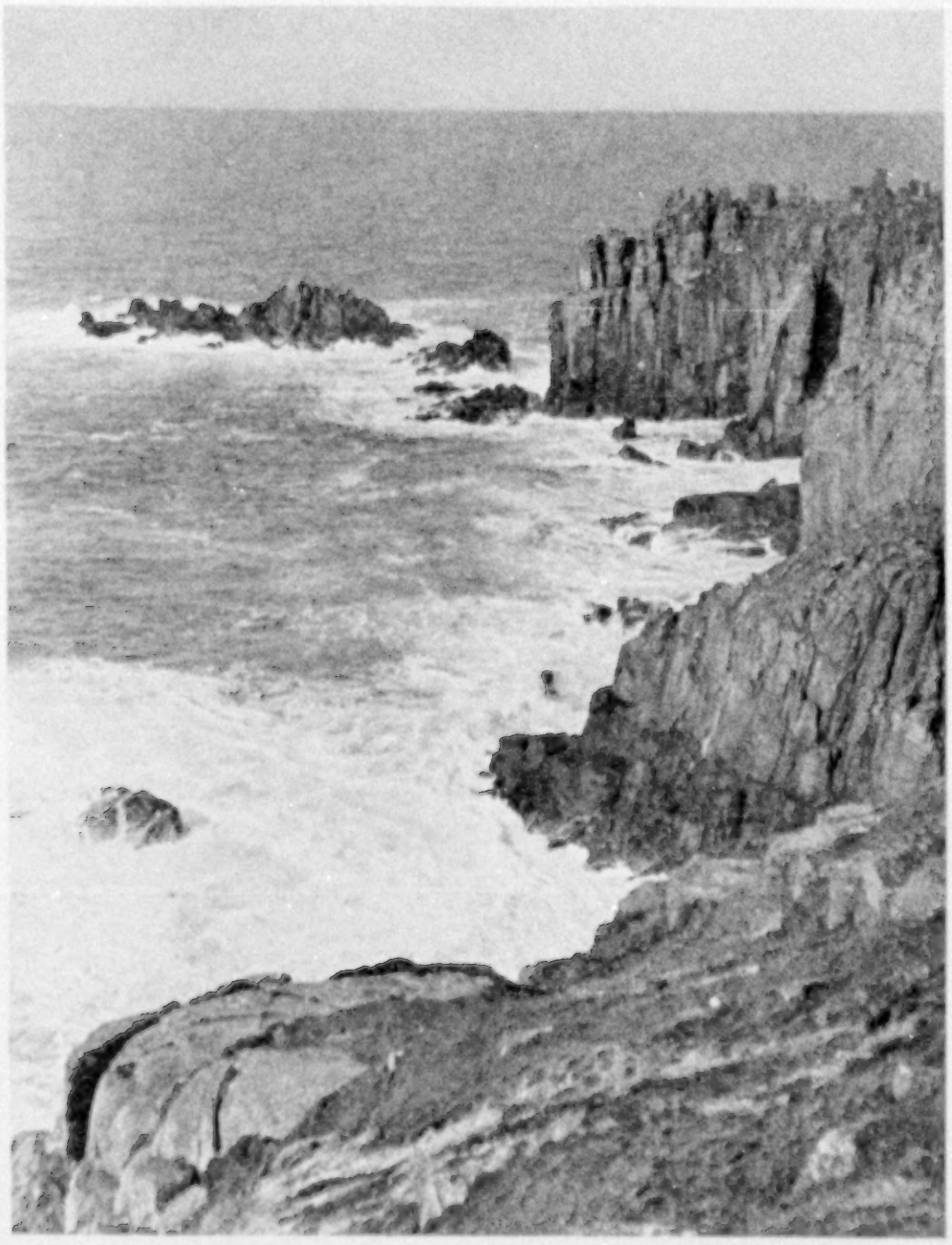
All motor-cars in Cornwall are alike in one thing, however. None of them ever put up their tops. Some of them—many, in fact—do not even have tops, although rain is one feature of Cornish weather on which one may absolutely depend. Rain, however, has precisely the effect upon a Cornishman that it has on a Peking duck. It is to rain, clotted cream, and ale in moderation that they owe complexions that deepen through the orange shades of the spectrum to an uncompromising purple.

CHARS-À-BANCS ROUTES RESEMBLE SPIDER'S WEB

Hence, also, our selection of Falmouth for headquarters, for from this town the great sight-seeing cars leave daily in every direction. A map of our char-à-

bancsing in Cornwall resembles nothing so much as a spider's web, each thread leading back to the town which owed its existence to a report made by Sir Walter Raleigh to Queen Elizabeth when he returned from a voyage to the coast of Guiana. Of it one might say today, as did an historian in 1730, that "its principal part consists of one very long street, stretched out at the bottom and along the sides of a steep hill, as high as the tops of the houses backward and winding mostly as that does."

There are other things to be said of Falmouth, of course. There is St. Mawes Castle, in almost as perfect repair to-day as when the fulsome eulogies of Henry VIII were first chiseled on its walls; and Castle Pendennis, on the other side of the harbor mouth, which was surrendered to Cromwell's forces in 1646 only when 87-year-old John Arundell (John-for-the-King) had no more food for his garrison.



Photograph by A. W. Cutler

THE CASTELLATED ROCKS OF LANDS END

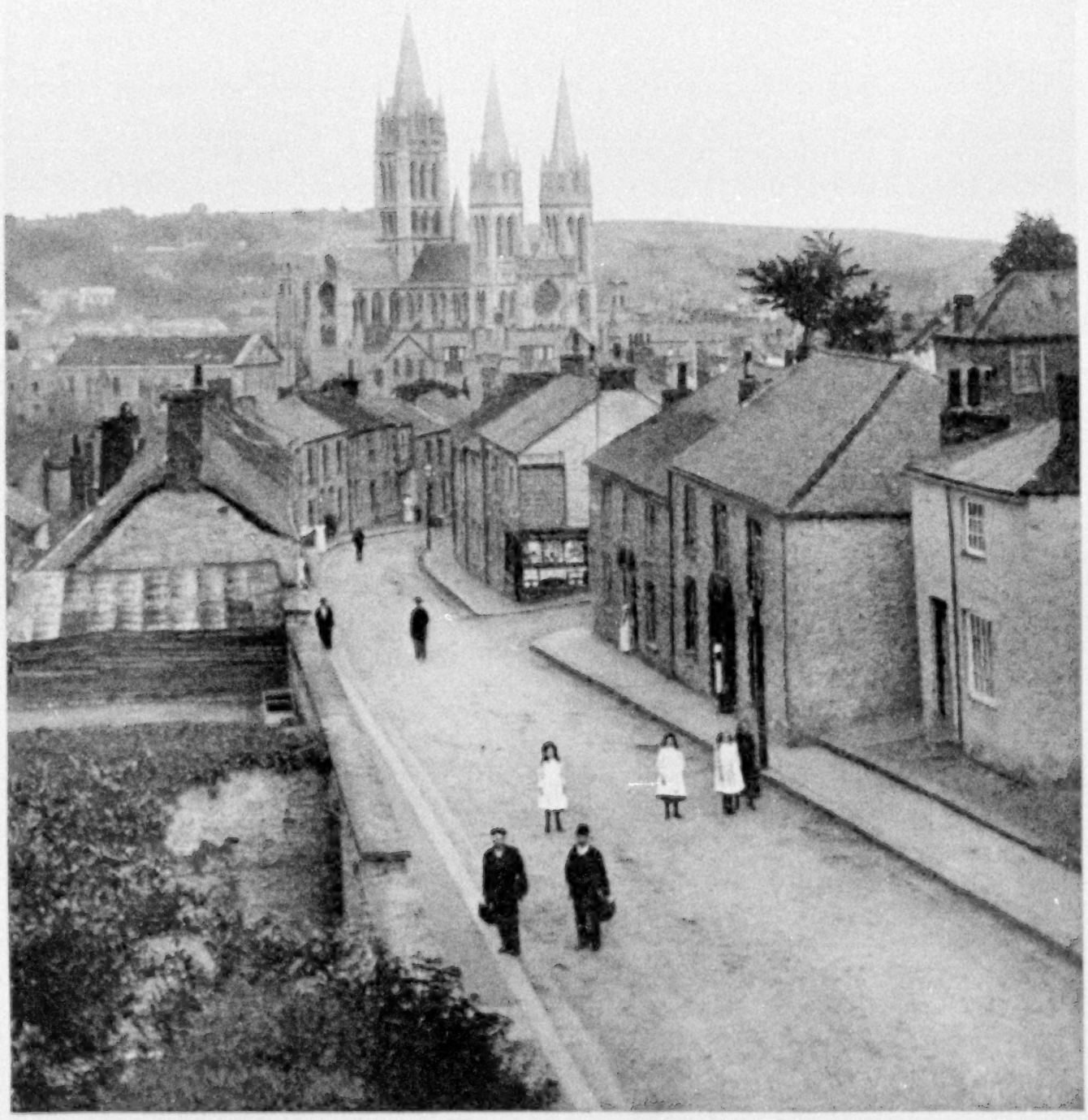
There are superb walks and drives, the craft of one yachting club or another are forever in the sheltered waters of the harbor, and the steamer excursions up the twisting little rivers, that reach from the harbor like the fingers of a hand, are worth taking.

But I shall resist the temptation of the pleased tourist to call Falmouth "quaint," for, in fact, it is only a commonplace, kindly, fairly prosperous little town.

Once it bade fair to be more, when in the 17th century the Falmouth packets sailed for America and Lisbon and the West Indies with the British mails. But the packets could not compete with steam, and Liverpool and Southampton became the mail ports.

Now it relies chiefly on its climate, for it is in favor both as a winter and a summer resort. Camellias, hydrangeas, and myrtle bloom in luxuriance; bats fly in the wintertime and adders crawl out of their holes to sun themselves on warm days. Oranges, lemons, and bananas fruit in the sheltered gardens, while Falmouth's fishermen fight the wintry seas off the Head.

Falmouth's one time of great activity since the days when French and American privateers slashed at the shipping bound for Carrick Road was during the World War. Then it was a base for the convoys of merchant ships inbound with cargoes from America and outbound with



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TRURO AND ITS LOVELY CATHEDRAL

Almost every cathedral in the Old World has some peculiarity by which it can be remembered. Truro's distinguishing characteristic is that the nave is six feet out of line. Standing before the altar and looking down through the choir, one finds that the columns beyond the transepts tend suddenly toward the right. After the foundations of the building had been completed, the townspeople called upon the cathedral authorities and demanded that work cease, for the church was cutting the market place in two. The churchmen had to bend their structure to satisfy the demands of trade.

coal for France. Naturally enough, they were targets for German submarines, three of which lie stranded on the rocks below Castle Pendennis.

Three hundred crews of sunken ships were sheltered here. Even yet, listless remnants of the War sun themselves on Falmouth quays, on which are houses whose front doors open on the long street and whose back doors are provided with Jacob's ladders, down which one may climb into a boat. A housewife one morning came to one such back door to shake her breakfast apron. At her feet a kitten struck with a soft, playful paw at the sea gulls that whirled about her to snatch the crumbs as they fell.

TIN AND COPPER MINES NO LONGER PROFITABLE

The great central plateau of Cornwall is of chief interest to the business man and to the archeologist. There are found the many small towns which depend on the copper- and tin-mining industries, on farming, or on the great pits from which clay is taken, some of which is sent to China for the manufacture of porcelain. For the most part, the copper and tin mines have gone too deep to be profitable, until some new invention comes to the rescue or prices rise out of all reason. To this cause is due the poverty and depression which may be seen in so many places on the moors.

The Cornishman is a born gambler in hard rock. When it became difficult to attract outside capital, he organized his own local concerns to work mines. Many companies of adventurous miners, too, were formed to work leases on the share plan, just as Cornish fishermen go share and share alike in their boats.

The failure of the mines not only bankrupted their owners, but drove them into other lands. One now sees a pitiful succession of empty houses on the moors—fine, square, granite-built houses that will endure the weather for centuries—and, come to think of it, almost every Cornishman one meets away from home is a miner by trade.

No part of England is as rich in prehistoric antiquities as Cornwall, and nowhere, one may guess, is the study less satisfying to an archeologist. Of the numerous Cornish crosses, about all that can be said is that they date from somewhere between the fifth and the twelfth centuries, when Cornwall was Christianized by saints from Ireland, many of whom, according to tradition, floated across the narrow seas in stone coffins. But one Cornish cross is perilously like all other Cornish crosses, and one holy well rarely differs from another holy well in glory.

We may guess that the crosses were set up as road-markers, perhaps, or as wayside shrines, at which passers-by might offer a prayer, as they do to this day in Italy and France.

And it is just to observe that the saints were fairly expert in their selection of localities for their hermitages, by the side of springs of clear water and alongside a a hill on which the afternoon sun falls warm. Of the pre-Druidic monuments no one knows anything, nor is it probable that any one ever will know. We preferred to see something we could appreciate and understand.

So we pelted off for Lands End one fine Cornish morning, in which skittish little showers played in and out with the sun as they do on all fine Cornish mornings. The char-à-bancs of the day was of an arsenical green and thunderous power, and we thudded down and snorted up hills at a level speed. From time to time we passed other chars-à-bancs, laden with poor souls who had traveled in this fashion all the way from London.

CHAR-À-BANCSING, LIKE HERALDRY, HAS DEGREES

We looked down upon their pale eyes and meek faces as we ranted past, for there are degrees in char-à-bancsing as in heraldry.

We learned this the day before, when we were taking our ease in our inn, being served with tea and scones by servants of a flagrant and overpowering presence. A char-à-bancs from London disgorged its patients at our doors. Tired, dusty, dishevelled, they stumbled in, speechless and drooping, to stand in helpless groups until their conductor assigned them rooms and issued orders.

"First, tea," said he briskly. "Then we shall go out for a walk through Falmouth. Dinner at 8 sharp, after which we will go to our rooms. The first call will be at

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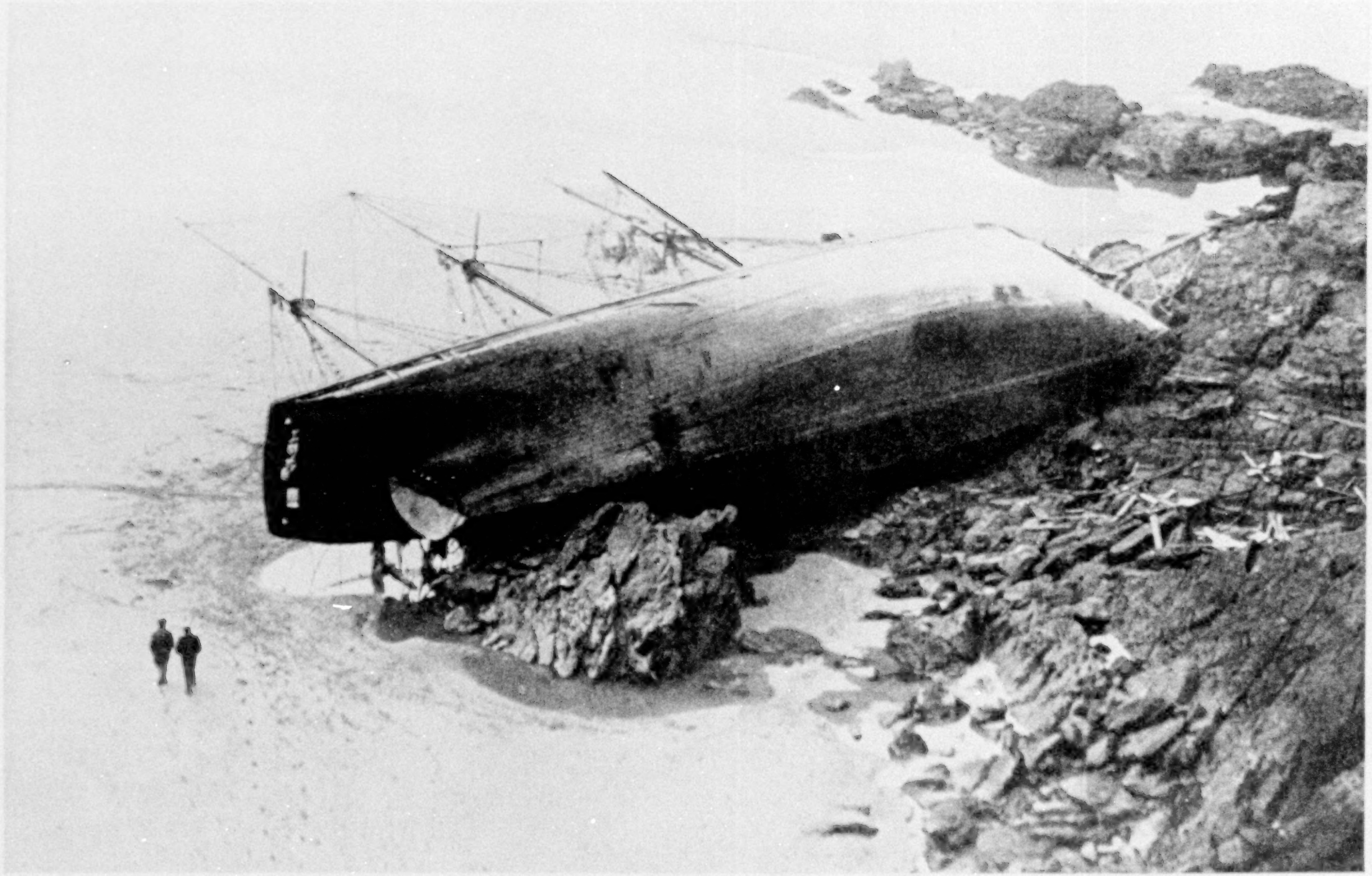
A LIFEBOAT LAUNCHED IN TERRIFIC SEAS ON THE CORNISH COAST

When the Cornish coast is lashed by storms the Lizard lifeboat frequently responds to calls for help. It is let down an inclined runway that gives it a certain momentum when it strikes the water, and straightens out for the run to the endangered vessel. Beyond the spume can be seen the jagged rocks that have to be weathered by the lifeboat and its courageous crew before they reach their goal.



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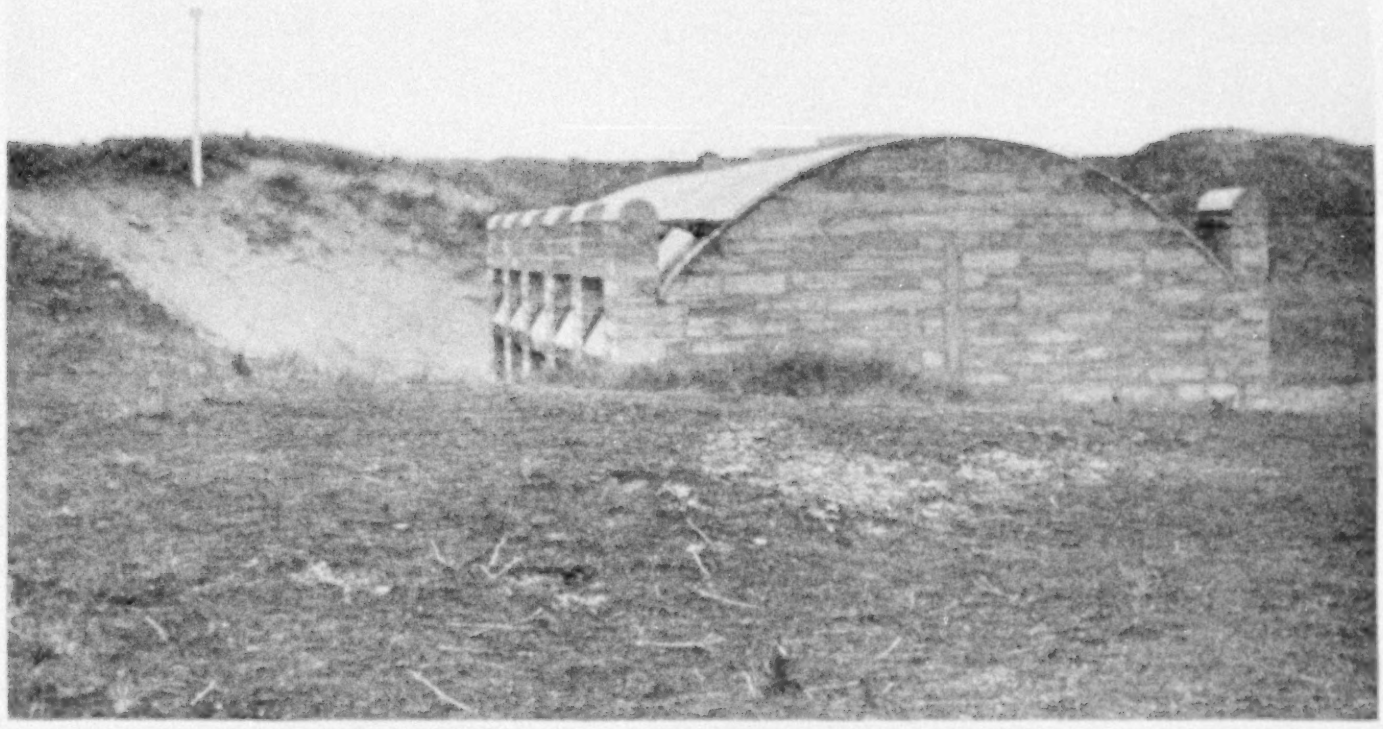
ASHORE IN WHITESAND BAY

After being buffeted about for an entire night, the motor schooner *Mary Peers* was driven upon the Cornish sands, and in the morning the crew walked ashore dry-shod.



Photograph by Herbert Corey

A TOURIST-PROOF DOME PROTECTS "THE LITTLE LOST CHURCH OF ST. PIRAN"

Beneath this structure are the remains of what some archeologists say was the first church built in England. It is near the village of Perranporth (see text, page 686).

7 o'clock, breakfast at 8, and the car will be at the door half an hour later. Be on time!"

We observed them brought into the dining room that evening under guard, to be herded by the headwaiter into an area protected by an invisible tabu.

Waiters gave and waiters took away, and the look of resignation deepened on their faces. Only the conductor talked in an unceasing flow of statistics-ruined information, while they stolidly stoked for the next day's cruise. On the moment he snapped his watch they abandoned their forks halfway to their mouths and shambled out obediently at his heels.

It was an instructive instance of dragooning. One understood how it is possible to make otherwise sane men go to war.

Whereas we resident char-à-bancsers, so to speak, were bowed down to by the headwaiter, who had been Sir Somebody's butler, and monstrously flattered by the man who brought our fried sole and rare mutton and Brussels sprouts.

We knew perfectly well there was a blot upon our escutcheon. Being Americans, we were considered as fountains of half crowns rather than persons of consequence. But the imitation of deference was very good indeed.

THE TABLE OF TREGEAGLE'S TASKS

The man who sat alongside us in the char-à-bancs was Cornish, and hence friendly and talkative. One finds all Cornishmen thus, although frankly curious as to origins and intentions. It was the Cornishman who introduced us to Tregeagle, as we banged down the long main street of Helston at a pace that promised ruin to the four-horse stagecoach parked halfway down the cobbled hill.

"Tregeagle dropped a sack of sand across the mouth of the river Cober," said he, "and made the Loo Pool."

Tregeagle must have been the ancestor of our own Paul Bunyan, patron saint of our northwestern lumbermen. You'll remember Paul's great blue ox, with which he used to pull the kinks out of crooked roads, and his dinner horn, which was so

Photograph by Herbert Corey

ONE OF THE FIVE BEACHES AT NEWQUAY

Here several miles of sandy coves, inclosed by tall cliffs, are separated at high water by rocky bluffs. Newquay is an excellent center for the exploration of north Cornwall. "It is difficult to imagine a resort that has been more extravagantly favored by Nature" (see text, page 689).

big that once when he used it he blew down ten acres of pines. The grindstone on which his men ground their axes was so large that every time it made a complete revolution it was pay-day. Once he decided to run three ten-hour shifts a day and installed the aurora borealis to furnish the needed light.

"Tregeagle, now," said our Cornish friend, "was an unjust steward, who sold his soul to the devil for 100 years."

The bargain, however, was held against public policy by the ecclesiastics of those days, and they set about helping Tregeagle cheat the devil.

They obtained permission for him to return to earth long enough to finish a few tasks, which through their chicanery will never be done. One was to make up his accounts; and, although he has been totting up ever since, he is still sixpence short. He was set to bail out Dozmare Pool with a limpet shell, but in this he succeeded so well that he almost drowned out the churchmen and was stopped.

Between times he twists ropes of sand, and it was during his period at the ropewalk that he dropped the sand that made the Loo Pool.

HELSTON'S FURRY DAY HAS ANCIENT ORIGIN

Nowadays Helston's claim to fame rests on the annual celebration of Furry Day on May 8. It may once have been the Roman Flora Day. One guess, perhaps, is as good as another. Once the man or woman caught working on Furry Day might be ducked in the river Cober, and even yet the villagers, men and women, hand in hand, dance up and down the flower-decorated village streets, singing a song to a merry, tinkling, irresponsible little tune, of which one verse runs like this:

"God bless Aunt Mary Moses,
With all her power and might, O,
And send us peace in Merry England,
Both by day and night, O."

Antiquarians believe that Mary Moses is no less a person than the Virgin Mary, and point out that "aunt" in Cornwall is

Photograph by Emil P. Albrecht

IN TREVENA VILLAGE, NEAR TINTAGEL CASTLE

The entire district in this vicinity is rich in Arthurian legendary lore. Here the Knights of the Round Table roamed (see text, page 693).

a term of respect. However that may be, oak branches are gathered in the woods and there is an abundance of music and other aids to happiness.

Helston's modest little Saturnalia held out against the Wesleyan influence when John Wesley reformed the rest of Cornwall, but in the sober days immediately preceding the World War its rites were maimed and altered, until one year they were omitted completely. Since then, however, popular appreciation has been revived in this inheritance from the ancients, and this year's Furry Day attracted attention all over the west of England.

On the road to St. Michaels Mount we roared through Marazion—only a little village now and, frankly, not worth describing. Yet it was once the chief port for this coast in the days when Phœnicians are supposed to have come to trade for tin.

History has no record of these transactions, but local tradition is firm that the wearers of the gaberdine had a trading post here. How else account for the fact that the old-time smelters are still called "Jews' houses," and that the blocks of tin sometimes found are "Jews' pieces?" And why do the country people call the town "Market Jew," when it has been on the maps as Marazion ever since there have been maps in Cornwall?

"We Cornishmen," said our friend, "stand by tradition and damn history."

HOARY LEGENDS ENSHRINE ST. MICHAELS MOUNT

A stone causeway, covered by the tide 16 hours a day, leads from Marazion to St. Michaels Mount, one of the extraordinary places of the coast. The rugged hill, 230 feet in height, is crowned by a castle and a chapel, around which hoary legends linger. Not long ago a secret dungeon was found, in which was the skeleton of a man in armor.

Edward the Confessor gave the Mount its first charter, confirming to the Benedictine monks their possession of the castle. Perkin Warbeck, the son of an apostate Jew, left his pretty bride here when he led an army against London in an effort to claim the crown of England.

Photograph by Herbert Corey

EVERY STONE IN THE REMAINS OF THE OLD FORT AT TINTAGEL COULD TELL AN ARTHURIAN TALE

It was here that King Arthur instituted his Order of the Knights of the Round Table, whose members were to go everywhere, punishing vice and rescuing oppressed virtue, for the love of God and some noble lady.

It was from hereabouts, presumably, that the two tribes of early Cornishmen set sail for the Breton coast, on whose people and language they left an ineffaceable imprint. The Mount itself is smaller and less impressive than Mont St. Michel in Normandy, but its resemblance is striking and their historical connection certain. The Norman monastery once held the overlordship, and the Cornish prior was bound to visit his superior once each year and pay 16 marks as a token of fealty.

SAINT KEYNE WAS THE FIRST FEMINIST OF BRITAIN

The Cornishman was inspired to tell another of the superstitions of the coast:

"Saint Keyne came here from Wales in the fifth century," said he, "the first feminist of Britain."

Saint Keyne not only believed in woman's rights, but did her best to insure them. On the west side of the crag is a hollow in the rock known as St. Michael's Chair, because the archangel is reputed to have appeared here to worshipers.

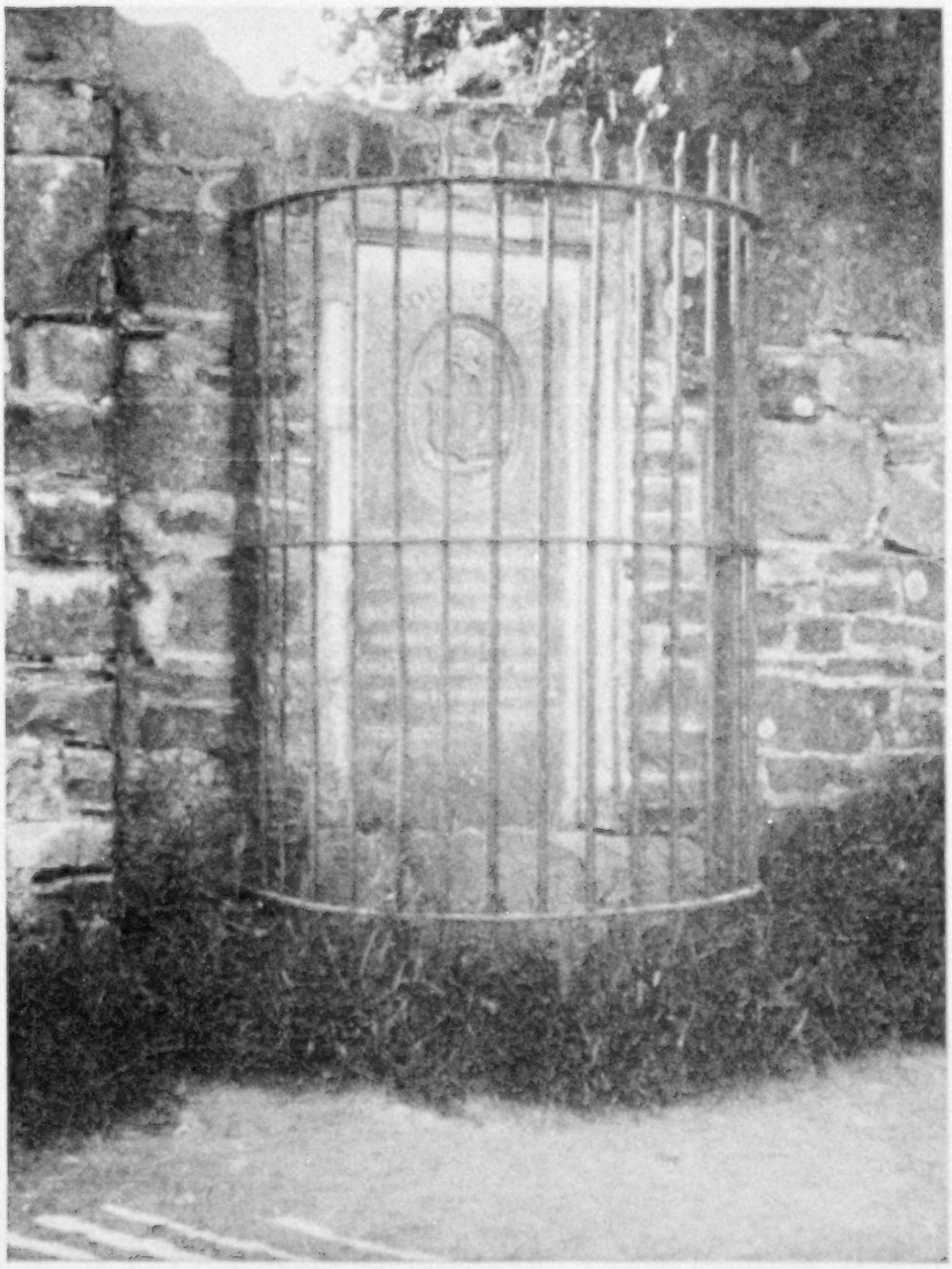
But it was Saint Keyne, the first feminist, who endowed that chair with miraculous power. Man or woman, the first of a married pair to sit in the chair, was granted the power to rule the home. Later Saint Keyne went farther east along the coast and conferred the same power upon St. Keyne's Well at Liskeard.

"There was a man once," said the Cornishman, "who left his bride at the altar and ran all the way to get a drink of the water. But the woman had taken a bottle of it to church."

The Cornishman wanted us to walk down to the pier and look at the brass foot which marks the place whereon Queen Victoria first stepped when she visited the Mount, in the early days of her reign. He could not explain his wish.

"People do," said he. "Just as at Penzance they named the Albert Pier because the local committee lost their heads and landed the Prince Consort at the wrong place. People go to see it just because of that; but I couldn't tell you why."

Penzance is the next town. Granite,



Photograph by Emil P. Albrecht

"BLOODY CORNER," WHERE ALFRED DEFEATED THE DANES UNDER HUBBA

A great grassy mound in Northam (near Bideford) is said to cover the dead of both sides. The rock beneath the tablet is popularly called the Hubba stone, and upon it the Danish chieftain landed when he came to Devonshire to find a grave.

bare, cobbled, dusty, prosperous, commonplace—now. Yet in Market Jew Street is a huge statue to the celebrated chemist and inventor of the miner's safety lamp, Sir Humphry Davy, who was born there. A magnificent semitropical garden flourishes in the semitropical air of this well-protected nook of the coast, where there is a range of but 16 degrees between mean summer heat and mean winter cold. For all its history—and "The Pirates of Penzance" is based on a sound historical foundation, for the town was ravaged, even in the 18th century, by Turkish and Algerian sea rovers—it is a dull little place.

NATURE, NOT MAN, HAS DONE MOST FOR CORNWALL

Truth is, for the last few centuries man has done almost nothing for Cornwall, if the summer and winter resorts of the day are excepted. The modern buildings are heavy and ordinary in appearance. There are few manor houses and fewer castles, for Cornwall was never a rich agricultural country, and only those which attract attention by their age are worth visiting for their beauty.

The squat churches, huddling away from the winter storms on the bare uplands, are striking by reason of their high, square towers, which are a county characteristic. Some of them date back to Domesday times. There are some which have on their walls complete lists of their rectors back to 1200 A. D.

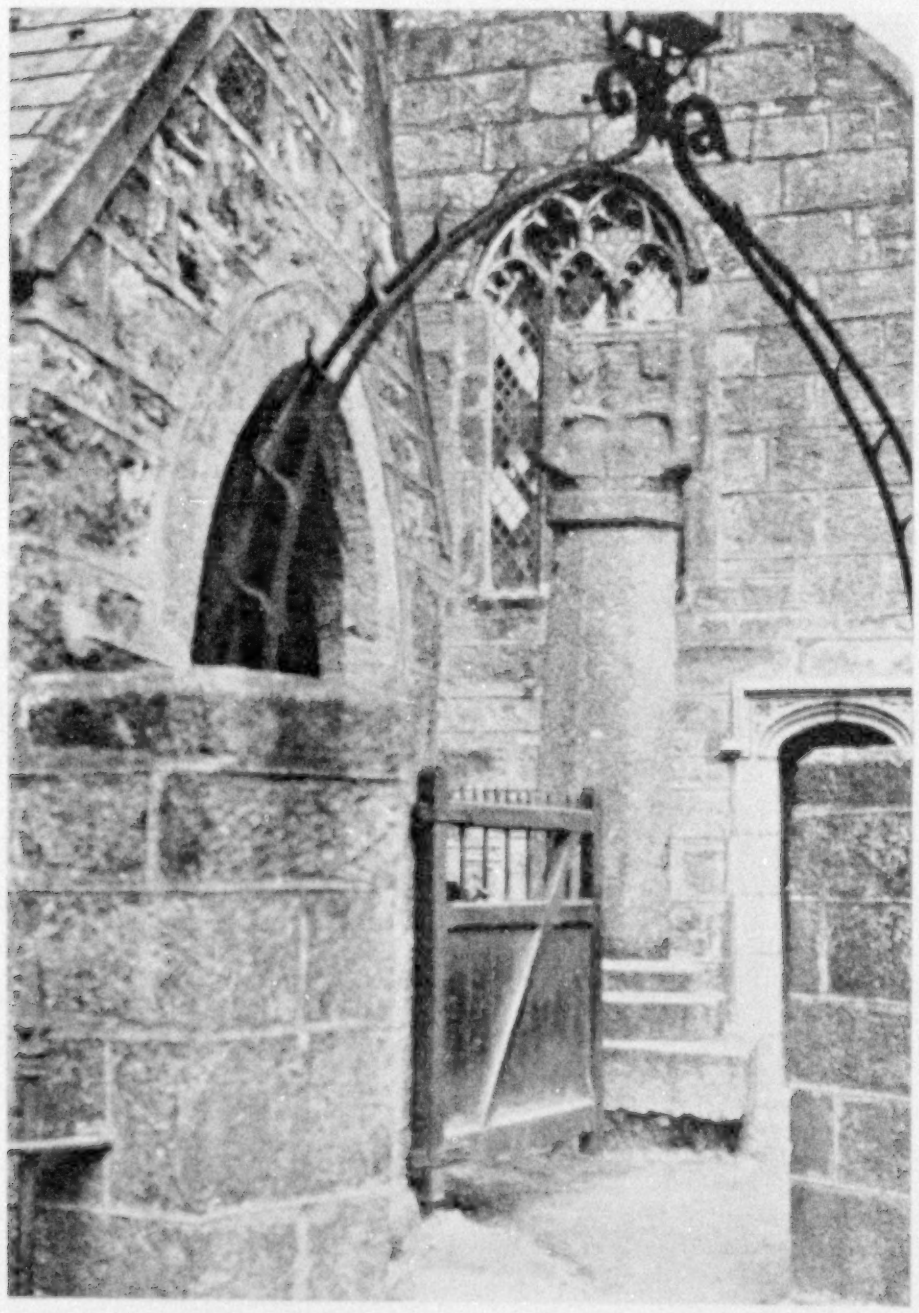
Hardly a year passes that some enterprising cleric does not scrape a coat of whitewash off the walls of his little church and find a mural painting which was covered over in Parliamentary times to save it from the iconoclastic Puritans. Many of these little churches have queer mosaics, made up of bits of the statuary hammered to pieces by Cromwell's agents.

But the attraction of Cornwall for the visitor is largely that conferred by Nature. I can do no better than to quote a paragraph from G. F. Nicholl's "Cornwall," in which he describes the character of the coast near Penzance:

"Dull weather seems in harmony with its dark, open moorlands, broken here and there by stone walls or fields of black earth, or by the lonely group of farm buildings on some ridge, or by the far-seen church tower standing out prominently as a landmark of a treeless coast.

"Never are the Atlantic's broken battlements seen to such advantage as when a winter's storm rages against the caverned base of those piles of roughly square blocks, which seem to have been heaped up by giants, poised upon each other as though a touch might send them crashing in ruin.

"On a fine, calm, autumn afternoon, when the sun shines over the sea upon the gray cliffs, adorned with bright patches of lichen, and the turfy paths winding among brown bracken and brambles, and the clumps of gorse still gay with their hardy bloom, one might almost forget the flight of the seasons, as, on a genial March day, when youngsters are sometimes seen bathing in the sea, one is easily cheated into believing that summer has really come."



Photograph by Emil P. Albrecht

THE OLD CELTIC CROSS BY THE CHURCH AT ST. IVES

The fishing village of St. Ives, which is better known to American artists than any other town in Cornwall, derives its name from the celebrated St. Ia, who, tradition says, floated over from Ireland on a leaf (probably meaning a coracle, one of the small boats still in use in Wales).

Lands End itself lacks that soft beauty. It is rude, barbaric, with a constant note of danger in the air. One comes to it over bare moors, set with a few stone houses, roofs clamped down by huge stones, standing in forbidding inclosures of granite rock. The wind whistles chilly on the sunniest day.

The riders on our char-à-bancs buttoned their overcoats, without which no wise person goes riding in Cornwall, and grew silent. The beer and sandwich pair in the rear seat abandoned their accustomed pleasure. Sea gulls in great flocks tore at the tonic grass in the gray meadows. The half-maritime nature of the farming hereabouts was shown by the halves of fishing boats, overturned to serve as pigsties and chicken-houses.

STORIES OF WRECKS AND PLUNDER CONNECTED WITH LANDS END

One recalled the stories of the good old days, when the wrecks that came ashore on this ferocious coast were welcomed. It is not so long ago, as time goes, when

Photograph by Emil P. Albrecht

ST. IVES HARBOR AT HIGH TIDE (SEE OPPOSITE PAGE FOR ITS LOW-TIDE ASPECT)

MUX

Photograph by Emil P. Albrecht

WHEN THE TIDE GOES OUT AT ST. IVES

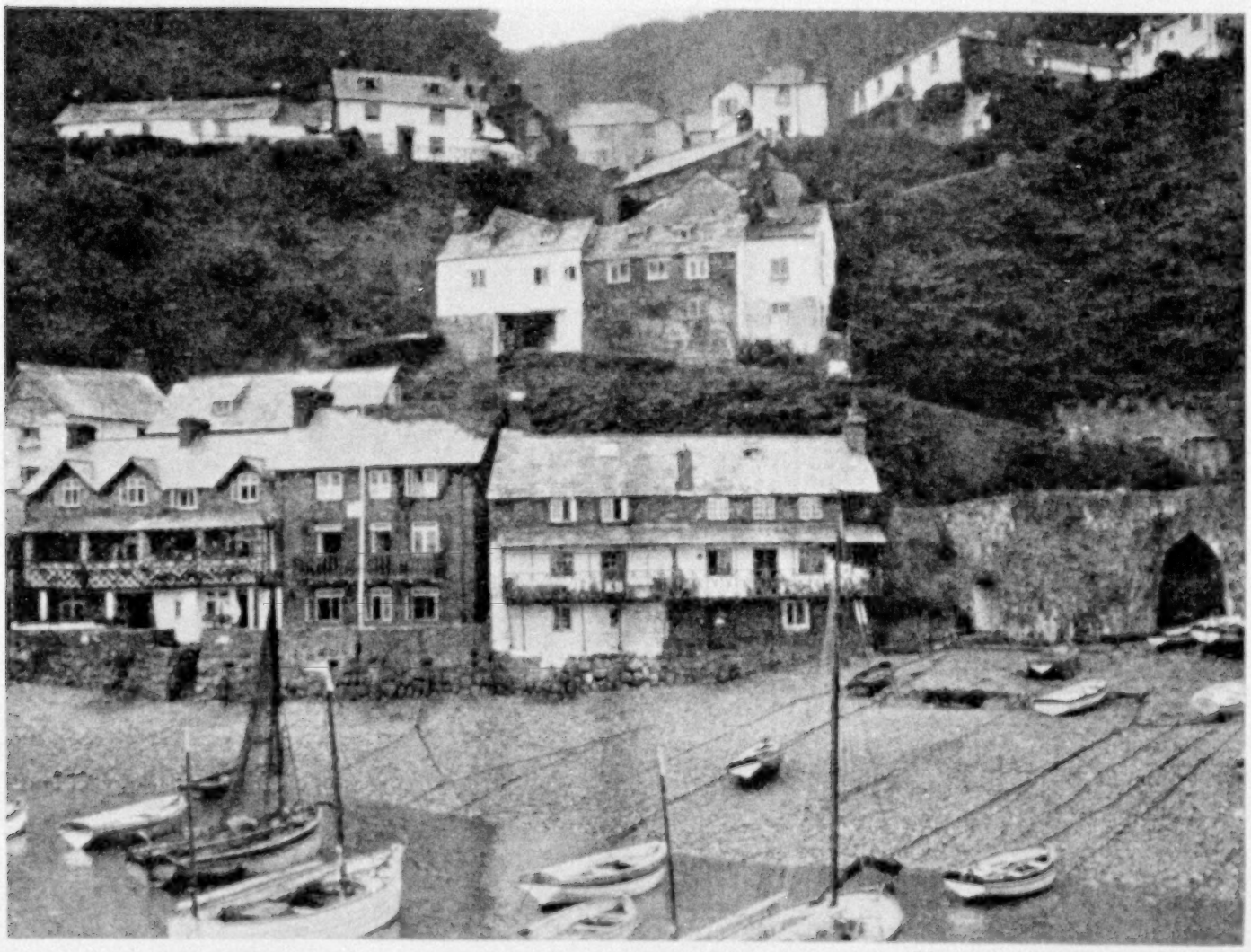
THE STREET OF CLOVELLY

This, the most famous village of its size in England, consists of a stairlike street leading from a tiny harbor to a bluff.

Photographs by Herbert Corey

PASSENGER DONKEYS AT CLOVELLY

There are no carts here; the so-called "Golden Stair" is not adapted to wheeled conveyances. Freight is hauled up from the harbor on sledges, which slide easily over the stones.



Photograph by Herbert Corey

SHIPS CHAINED ASHORE IN THE HARBOR OF CLOVELLY

it was thought to bring ill fortune to drag a drowning man from the surf. Dark stories are told of the wholesale murder of survivors of particularly rich wrecks.

"You'll have heard the story of the rector, now," said the Cornishman. "He was in the middle of his sermon, when he glanced through the window from the vantage point of the high pulpit and saw a ship going to pieces on the rocks. He pulled off his surplice and walked down the aisle to the door. There he turned.

"'My good friends,' said he, 'let us start fair. A wreck! A wreck!'"

One passes the Last Inn in England, which, when one faces away from the Point of Land, becomes the First Inn. It held that distinction for a century or so: but now there is a modern glass-fronted eating-place on the promontory, in which beef and beer are thrust at the hurried tourists. Hideous paintings by unknown artists are offered for sale in it at absurd prices.

Farther down toward the cliff edge is a stone shanty, definitely the first and last house in England, in which German post cards are offered for sale, along with atrocities in china, with which every resort is submerged. But not all of these can dim one's awe.

One wanders by slippery sheep paths on the edge of the cliffs. On the calmest day the thunder of the great Atlantic surges is unending. After a storm the air is filled with spray, so that the salt forms thick on one's face (see page 667).

Beneath the point of horridly broken granite which is the actual end of land is a great cavern, into which at high tide the waves beat until the cliff structure seems to drum under the attack. Yonder is the trans-Atlantic cable and wireless station and here is the rock on which, according to local tradition, John Wesley sat when he wrote the hymn beginning:

"Lo, on a narrow point of land,
'Twixt two unbounded seas I stand."

Over yonder, visible on a clear day, are the Scilly Isles, where the tax collector is

Photograph by Herbert Corey

THE CLOVELLY FAST FREIGHT

unknown, and between them and the land lies Lyonesse and its 140 sunken parish churches. Geologists refuse to be convinced of this, although the fishermen still tell of great buildings seen under the waves on calm days, and of bringing up bits of ancient furnishings on their gear.

The one man saved from the disaster, according to tradition, was a certain Trevilian, whose horse outran the sea, and in memory of which the Trevilian family has ever since borne on its arms "Gules, a Horse Argent, from a Fess Wavy Argent, issuing out of a sea proper."

A fable, no doubt; but what a delightful fable!

Between Lands End and the Lizard, on which point stands the great Lizard Head Light, that throws its beams 21 miles to sea, is one of the grandest portions of the Cornish coast. It is only to be seen by the determined pedestrian, who can follow paths up and along the cliffs which would appall a goat. Every mile of this coast—one might say every inch—has its tragic history of wrecks, for this is, perhaps, the most dangerous landfall in the United Kingdom. Here is Pistol Meadow, where the ghosts of 200 unsheeted dead wander by night.

On Man-of-War Rock, at Kynance Cove, a government transport struck, with the loss of 700 lives. Only two men reached shore. At Mullion the *Jonkheer* went ashore and only one man reached land. Two thousand lives were lost hereabouts in a single storm. Long after a warship drowned there the fact was discovered. Not a single man, living or dead, had been thrown on the land. Not even wreckage came ashore.

STORIES OF CHESTS OF GOLD

It is near here that Pirate Emery buried his chests of gold in the sands, for which optimists still search. Sometimes coins wash ashore on the heels of the wind.

These grisly stories do not mar one's pleasure in the marvelous beauty of the ever-changing scene. True, the seas come plunging in with a vicious weight that makes one understand why the fishers'

Photograph by Herbert Corey

BEEHIVES IN THE DOONE VALLEY

boats are framed so heavily and are so broad of beam. From the cliff heights one can make out, under the shimmering water, needlelike points of rock that would rip the bottom out of the unlucky craft that touched in this lifting surge.

But inland each little cove seems a veritable suntrap, so sweet and warm is the air in the sheltered places, and the serpentine rocks glow like jewels, where they are washed by the spray. Along the shore line one needs a guide, for the tide makes with frightful rapidity, and there are many traps from which no escape is possible.

Near by is St. Sennen Church town, where a battle was once fought, with King Arthur and the seven Cornish kings on the one side and the Danes on the other. Legend says that not a single Norseman escaped. So great was the slaughter that the mill wheels of Sennen turned with the blood.

That night Arthur and the seven kings dined at Table Mean, a flat rock, where no kings shall meet again until the end of the world comes. Then there will be another great gathering of monarchs to resist the fury of the Norsemen, after which chaos shall reign.

In the church at Mullion Town a thoughtful medieval ecclesiastic provided a devil's door near the font, through which the master of evil may escape when the sponsors renounce him and all his works for the child being baptized.

CORNISH MOORS HAVE CHARM, HISTORY, AND TRADITION

The attraction of the moors operates most stoutly for Cornishmen, it seems to me. Every inch of these rolling downs has its charm of history and tradition and they breathe in vigor from the bleak winds.

I would not deny the stern beauty of these lonely miles, clad in purple heather, but upon me they had an almost hypnotic effect. Thought was stilled, memory faded, even anticipation was dulled.

The char-à-bancs pounded along with its mute load until conversation was released by entrance into one of those dulcet lanes in which Cornwall abounds, huge trees overhanging from either side, while flowering shrubs display their luxuriance against the stone walls.

They are interludes in enjoyment, for one becomes frankly a curiosity-seeker and hunts for thrills. I said before that

Photograph by Herbert Corey

LORNA'S CHURCH IN THE DOONE VALLEY

No tourist should be so careless as to visit the Doone Valley of Devonshire without having reread his "Lorna Doone."

man had done little for Cornwall in these latter centuries, but the truth of that statement depends on the desires of the visitor.

One can, if he will, visit the most delightful of watering places, modern as can be, where girls in one-piece suits dare the waves quite as bravely as in our own ocean establishments; or the traveler may step back into the past by a visit to one of the two oldest Christian churches in Great Britain. The honor is debated, but we voted for St. Pirans from the depths of our archeological carelessness. St. Pirans — the Little Lost Church, the country people call it—had an air.

It was of a Sunday morning that we took a char-à-bancs from Falmouth for the little village of Perranporth. One dropped into it suddenly, through a rut in the sandy hills, to find the tide roaring over the stones of the little jetty, under the urge of a strong wind.

On this Cornish coast the careful bather reads every sign before he commits himself to the deep. Only the day before, some young men had been drowned, and the fishermen stood about the doors of the little post-card shops, which cater to the unworthy appetites of tourists, to tell of the tragedy. A mist that sometimes rose to the dignity of a drizzle clothed the scene in gray.

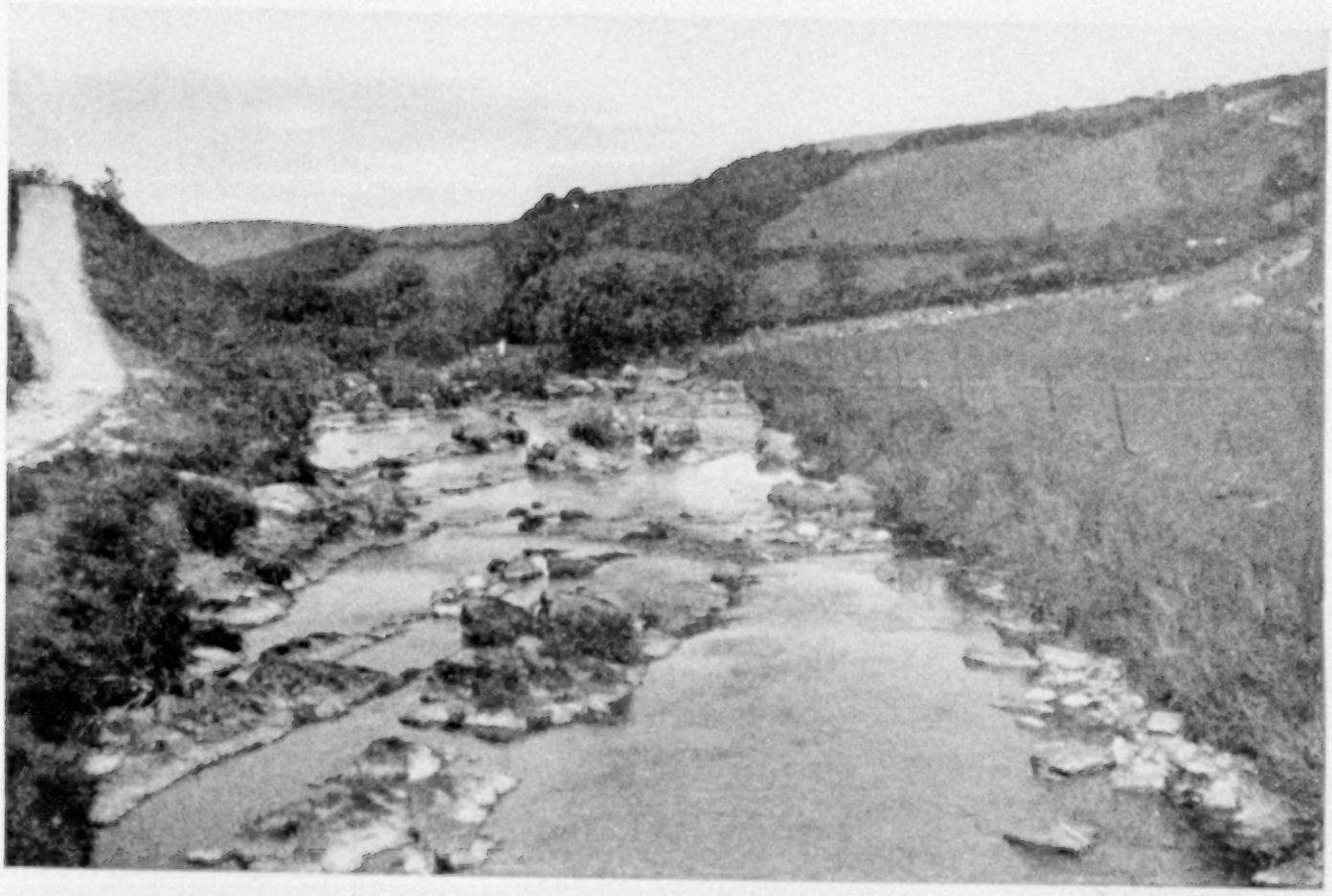
We sought the path to the Little Lost Church. "But you'll not be trying it by yourselves," we were told.

A moor is a terrain on which one can easily be lost; but these sand hills about Perranporth are lands on which one can hardly avoid discomfiture. They look alike, all rounding to the same swell, all white sand and stunted bush, alike destitute of pathway, once the main road is deserted.

The country folk have spotted their wastes with rows of stones that are kept freshly whitewashed for their own guidance. The outlander is supposed to stay away.

"But Jack will carry you if he can catch his horse," some friendly villager said.

So we ran Jack to earth and then waited in the rain until he caught his horse upon the hills, after which he immured us in a one-horse shay of funereal grimness. Its principal use was only too

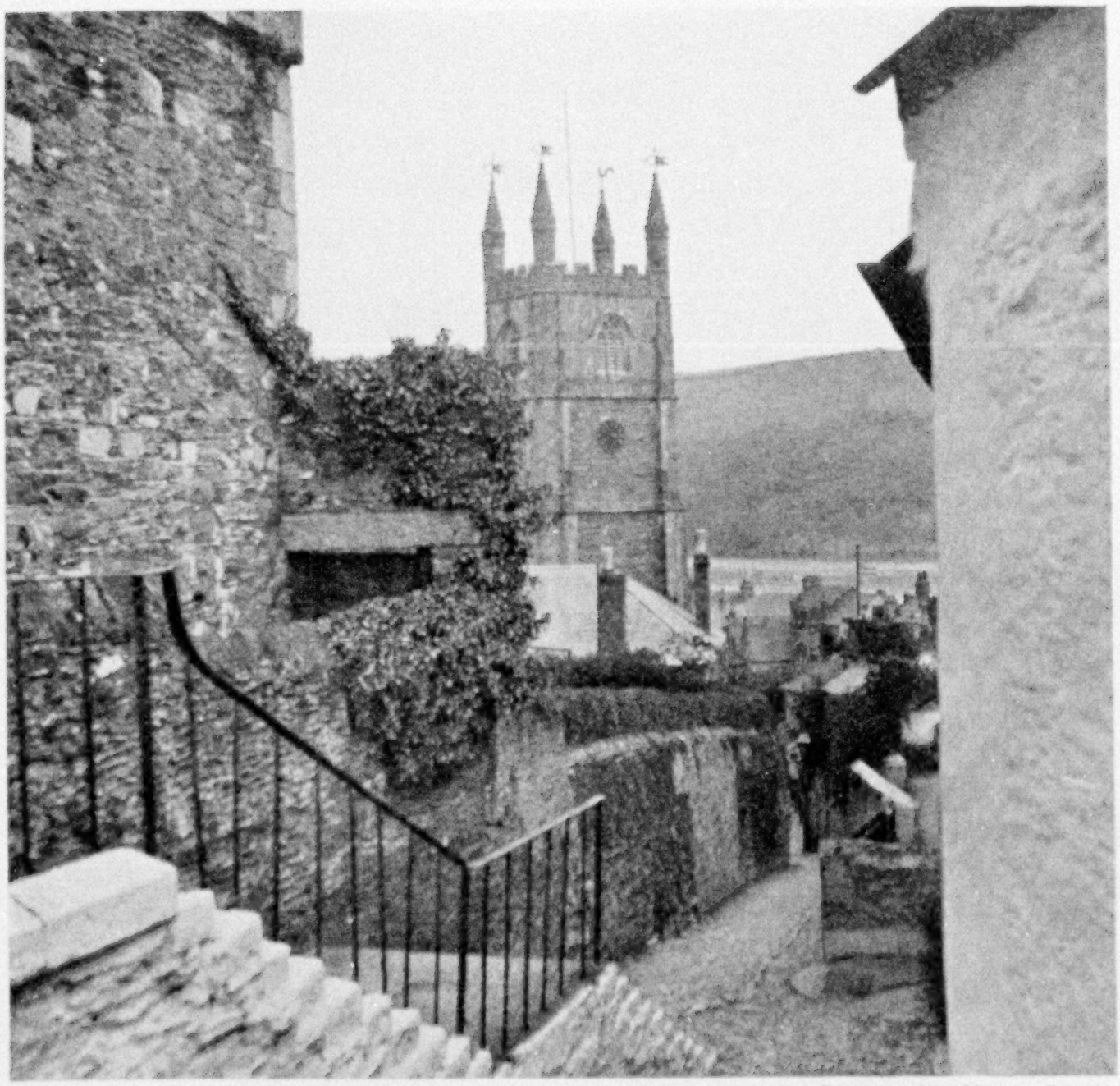


BADGEWORTHY WATER, DOONE VALLEY

Photographs by Herbert Corey

TREES ALONG THE BANKS OF BADGEWORTHY WATER

A small stream which flows into Badgeworthy Water near this spot is said to have suggested to Richard Blackmore the "Waterslide," which figures in "Lorna Doone." The home of the Doones is a side valley, opening to the right, beyond the Waterslide. It was in Badgeworthy Water that John Ridd speared the loaches for his mother.



Photograph by Herbert Corey

AN OLD CHURCH AT FOWEY

This seaport once contested with Plymouth and Dartmouth for the maritime honors of southwest England. The "Gallants of Fowey" in the fourteenth century flew their own ensign. The town claims that her sailors were responsible for the foundation of England's naval greatness before the time of Drake.

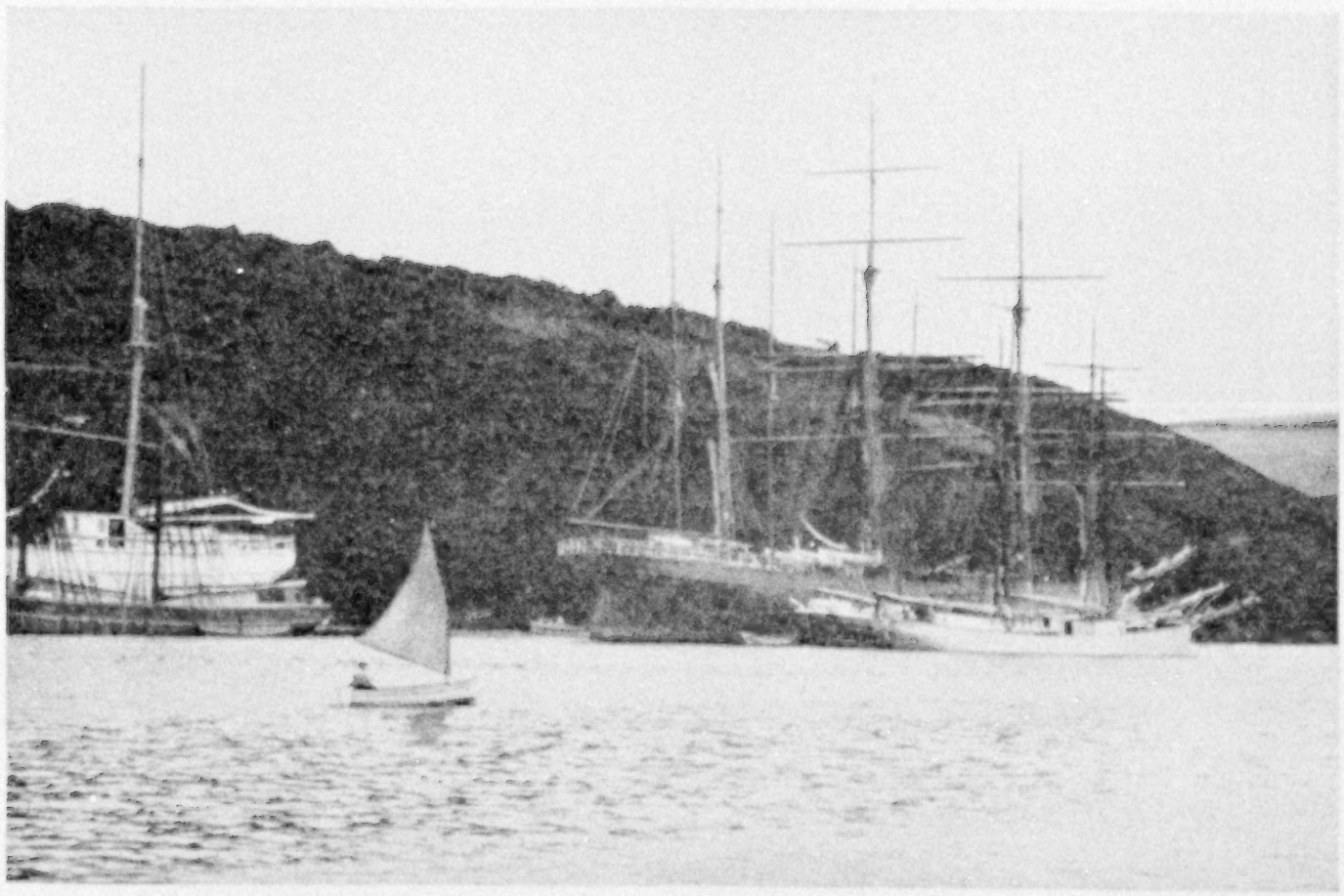
evident. But Jack and his funeral car carried us over the hills to a point where further wheeled progress became impossible. Then we took to the sand.

"Follow the white stones," said Jack. "Never leave them, mind."

THE LITTLE LOST CHURCH OF ST. PIRAN

The little church of St. Piran—some archeologists say it was the first church built in England—is but a tiny quadrangle of ruined walls in what is now a hollow of the sand hills. Twice it was overwhelmed by the sand in the storm of a single night and twice rebuilt in a new location. The present church of Perranporth, itself of a respectable antiquity, now stands well inland. Only a few years ago the Little Lost Church was unearthed, although it had never been forgotten by the people of unchanging Perranporth.

Then came a plague of tourists. They knocked off the little stone heads of saints from the walls, took away carvings for paper weights, and looted bones, until it became apparent that modernity was far more of a danger than the ages had been. So a tourist-proof dome of concrete has been built over what remains of the Lost



THE HARBOR OF FOWEY

The shores are so steep, the harbor water so deep, that merchantmen of fair tonnage can lay up against the bank, their spars almost touching the trees.

Photographs by Emil P. Albrecht

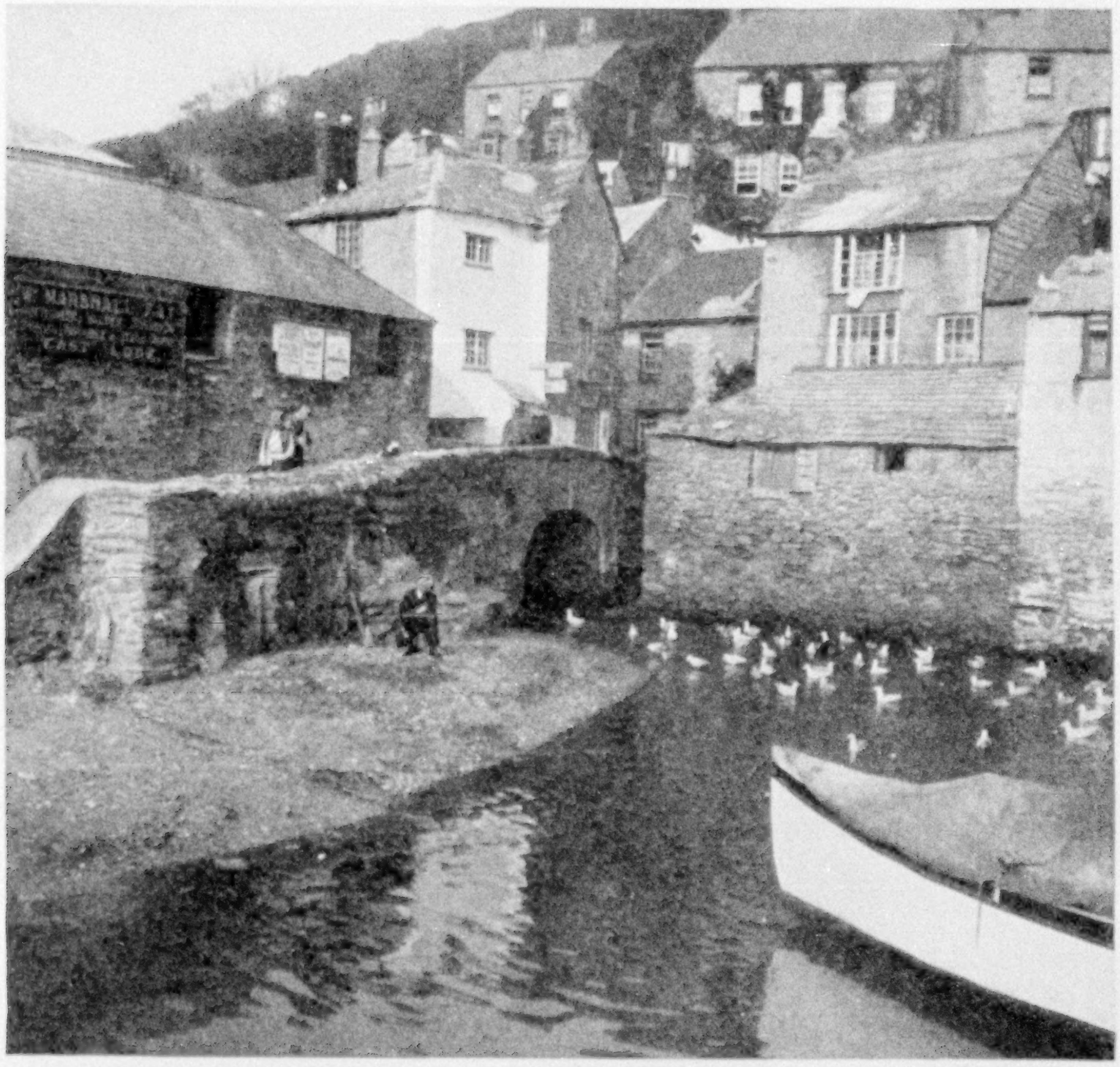
LANDING THEIR CATCH AT POLPERRO

The baskets are full of huge, thick-shelled, wicked-looking crabs. The man on the left nonchalantly carries one swinging in his hand.

Photograph by Emil P. Albrecht

THE INNER HARBOR OF POLPERRO, SIX MILES BY FOOTPATH FROM FOWEY

He who would visit Polperro, on the south Cornish coast, must travel either afoot or by automobile, for no trains connect this charming little fishing village with the outside world. Its houses march up the steep sides of a ravine whose mouth forms the tiny harbor.



Photograph by Ralph A. Graves

GULLS IN THE HARBOR OF POLPERRO

The boats, the rambling houses, the two towering headlands at the entrance to the tiny anchorage, and scores of the fisherfolk of this village have been perpetuated on many canvases. Note the artist at work in the shadow of the bridge in the background.

Church, through a doorway in which one peeps, but may not enter (see page 672).

What may be seen is an oratory hardly more than 20 feet long by perhaps 12 feet wide. Under the shrine were once found the dismembered bones of three skeletons. There is reason to believe that these were martyrs who suffered at the hands of the Cornish savages.

THE BATHING MACHINE

Newquay is a port of a different sort. Once dependent upon the pilchard fisheries, it now relies on the summer visitor for its profits (see page 673).

It is difficult to imagine a resort that has been more extravagantly favored by Nature. Fenced about by rolling hills, it faces the sea with a barricade of towering cliffs, into which the untiring waves have cut five great bays, which spread from a common center like the fingers of a hand. In these bays the sands are warm and the waters gentle, while the tidal advance is so moderately made that a quaint habit becomes possible.

Throughout England, bathers give themselves up with abandon to the bathing-machine habit. This seems quite as incredible to an American as do some of our customs to an Englishman.

The bathing machine is a one-man

Photograph by Elizabeth Evans Graves

POLPERRO'S ONLY "WHITEWING" AND HIS RUBBISH CART

house on wheels, which is hauled to the very edge of the waves. Within, the occupant changes clothes and steps chastely as Diana from the door into the ocean. By the exercise of care, the watchers on the cliffs are deprived of a view of anything even remotely resembling humanity, which kindly effort is greatly abetted by the prevailing British styles in bathing suits.

It is obvious, of course, that the bathing-machine habit in its perfection requires close contact with the waves. As the tides recede at Newquay, the men in charge, with their handsome little Cornish ponies, trot the machines nearer the water's edge. When the tide begins to make, the long lines of machines are hauled back, one at a time.

At first this retrograde movement is conducted with dignity and decorum, but as the waves gather speed the haulers display an agitation that eventually becomes almost hysteria. Stage by stage the battle front of machines retreats, until finally the sea musters all its forces and the great breakers come crashing toward the land.

The retreat becomes a rout. The last machines to be rescued are actually battered by the waves, while their modest inhabitants upon occasion squeak for aid from their timidly opened doors.

Here another bathing custom, too, may be seen in its full fruition, which I venture to say is the most remarkable to be found among civilized nations. In the waves are young girls in the most—er, intensive—one-piece suits, and along the edges of the waters young ladies stroll in costumes that might owe their inspiration to Ostend. But the elderly ladies, in whom all coast resorts abound, those of a redundant and comfortable figure, do not favor these revelatory garments. Yet they cannot resist the siren call of the sea.

Photograph by Herbert Corey

THE CHURCH OF ST. JUST IN ROSELAND

Wherefore they remove shoes and stockings, modestly hoist up their skirts until the water is cleared by an inch, and go paddling in the tiniest waves that purr and ripple along the white sands.

It is an extraordinary, almost an incredible, sight. Consider many matrons, all plump, absorbed, barefooted, each clutching her skirt on either side, head cast down, footing ankle-bone deep through the waters. Scores of them—in the first enthusiasm of the visitor, one says miles of them. I hunted them desperately with a camera, but when fairly face to face with the issue I dared not snap.

STONES ERECTED TO LET CATTLE SCRATCH

Hereabouts one sees the Duke of Argyll's conveniences, which are stone posts set up in the middle of fields to afford cattle the luxury of scratching. Sometimes you may see a man on a street corner back up to a building or a lamp-post and solemnly alleviate an otherwise unreachable discomfort, in which case it is good form to say, "God save the Duke of Argyll!"

Some years ago modernists set upon a desperate effort to improve the County of Cornwall out of all comfort and beauty; they initiated a movement for the elimination of the Duke of Argyll's conveniences. Unfortunately they were unable to alter the mentality of the cattle. Lacking their customary aids, they scratched themselves on the stone gate posts. After many of these posts had been tilted over, the conveniences were replaced. One may reform a farmer, but not a cow.

Not many years ago the pilchard fishing was one of the chief treasures of the county. Even yet the Cornish toast is "Fish, Tin, and Copper." But the pilchard is a moody and temperamental fish, which, in the belief of the fisherman, follows its own inner processes rather than the food which the scientists say attracts it. Not for years has the pilchard fishing amounted to much on the Cornish coast, although in times past more than one co-

operative boat has made its shareholders rich in the course of a single season.

When the pilchard are running, they appear as a flake of fluttering purple on the blue-green of the sea. They may be seen at a distance from the high cliffs, and it was the custom to establish watchmen on the headlands to "hue" the fish when sighted. "Huer" is obviously from the French.

At Newquay the "huer's house" is a whitewashed stone structure overhanging the harbor, in which in ancient times men were on watch day and night during the pilchard season. When the boats took the water they were guided in their courses by signals from the huer's house.

"But the pilchard will never come again," said the neat little man who drove us about town in a jingle, a sort of reversed jaunting car entered from the rear. His explanation hinted at the superstition which is a part of every Cornishman.

For centuries—perhaps ever since pilchard fishing was practiced on the Cornish coast—certain rules have been observed. Nets may never be shot upon a Sunday. Dogs may never be taken in the boat. Moths may never be killed. At table the fish must be eaten from tail to head.

"They shot the nets here of a Sunday," said our little man gloomily.

It was a Wesleyan preacher, however, who directed the curse, he said. The fishermen were sitting under his ministrations one Sunday morning when the huer began to hue. In a moment every fisherman was afoot. The season had been a hard one, and one catch might save all. The preacher bade them sit fast and listen to the Word of God. But the fishermen laughed in his face and clumped for the door in their heavy boots.

"Never another pilchard will be caught off the Newquay cliffs!" shouted the minister.

"And there never was," said the little man.

When the pilchard come, and they do come at long intervals, though never in the numbers once known, they are pressed and salted for shipment to Spain. England never acquired a taste for this fish, but the Spaniards, and to a lesser extent the Italians, are eager buyers. Hence another Cornish toast: "Long life to the Pope and death to Thousands."

The Thousands evidently refers to pilchards.

When we started for Tintagel, the hedgers were at work with their hooks, trousers tied about the knee so that the lower ends stuck out in curious frills, precisely as one sees them in English pictures. We abandoned the char-à-bancs for the more prosaic bus, which promised nothing but speed until a most delightful old woman got aboard, wrapped in shawls and provided with an enormous quantity of very beefy and buttery lunch. Eleven she had sent to the war, she told us, and all came back but one.

"The best loved of all. Yet perhaps it is always the one that is gone we love the most."

PATHETIC MONUMENTS TO CORNWALL'S WORLD-WAR DEAD

But she had been happy to send her men, and cheerily called our attention to the pathetic little monuments one saw in every village, bearing the names of those who had died for King and Country.

Sometimes the list seemed incredibly long in these remote hamlets, which appeared almost stripped of life, except for the occasional woman at work, or the white-bearded old man, pipe in mouth, leaning in a cottage doorway precisely as one sees them in the illustrations for W. W. Jacobs' stories.

At St. Columb we pulled up for a moment at the door of the Red Lion Inn, under the red lion itself. It had been erected by the man who for years held the Cornish wrestling championship, and whose thews and sinews are still spoken of with respect where this breakneck game is known. The old woman got out her lunch basket and sent the driver for a pint of bitters.

As I dodged about with my camera for a shot at the Red Lion, the usual mild Cornish rain began to fall and she grew worried.

"The young master," she said, "should take care of himself."

The young master was still glowing with that compliment when we hammered into Tintagel over the blowy moors.

Here is one of the most remarkable monuments of antiquity in all England.

Photograph by Herbert Corey

A THATCHED COTTAGE AT ST. JUST IN ROSELAND

Whether or not King Arthur ever held his Table Round in the gray old castle that once crowned Tintagel Head, it is at least certain that it dates back to an unfathomable age. The very existence of King Arthur may be challenged, yet it seems logical that a legend that carries back so many centuries must have a respectable origin.

TINTAGEL AND KING ARTHUR'S CASTLE

Merlin and Launcelot and Queen Guinevere may be romantic adornments of the fine old story, but the belief in King Arthur himself has a foundation which reaches back through the centuries.

Nowadays Tintagel is but a tracery of crumbling walls crowning a vast headland, at the foot of which the most superb seas of Cornwall crash and glitter. So far below are they that even when the thinnest mist is in the air it is hardly possible to see the white fire of the breakers.

Tradition names the banqueting hall and the postern gate, and the walls of the keep are still unmistakable. The castle is in two parts, separated by a deep ravine which, legend says, was once bridged. That it was impregnable before the days of artillery is evident, defended as it is on one side by the sea.

The village of Tintagel may once have given birth to a king, but it is now only a tiny place, chiefly remarkable for a house of the 14th century which might well serve as a model for a builder of artistic homes to-day.

No doubt this was once the residence of minor nobility, in that era when the hall was carpeted with rushes and one dipped with one's own hand in the pot. The common room is unceiled to the rafters and at one end a little balcony overhangs, from which no doubt the ladies of the establishment kept displeased eyes upon their lords at wassail below. The walls are of graystone, the roof of gray slate, while all about the bluest of corn flowers blow.

But it is the landscape that demands attention in this rough country, where the coast line has been worked out in a rude pattern by an unresting sea. Not far away is Boscastle, as dear a resort for artists as is St. Ives, nearer to the Point of Land.

And all about are the places told of by Sir Thomas Malory in his story of the death of King Arthur: Camelford, where

legend says his last and greatest battle was fought, and Dozmare, the black tarn from which the arm clad in white samite appeared above the water when Excalibur was thrown, and on which floated that barge of queens which carried Arthur away, not to return until England must again be saved.

Beauty is so constant hereabouts that it might almost grow monotonous if it were not for the stern relief of the dun moors. On them are sturdy Cornish churches, as heavy-walled as forts against the weather. In their churchyards the gravestones are buttressed against the wind.

Then one descends into valleys that are bowers of beauty; or encounters such a brisk modern watering place as Bude, where the sun seems always to shine on the white sands; or Ilfracombe, nestled in a nook of the cliffs.

THE SOMERSET HUNT AND THE VALLEY OF THE DOONES

So we came to Porlock and its 300-year-old Ship Inn.

It is true that we were no longer in Cornwall. Porlock is of Somerset and more particularly of the Somerset Hunt. We were bound toward the Doone Valley.

Porlock seemed a fit resting place by the way, and then we fell under the spell of the old inn, with its "crazy flooring" of water-worn flags and the peephole in the wall of the great fireplace, through which the poet Southey used to watch the comings and goings on the street, as he sat with his feet in the embers.

And there was Porlock church, with a very ancient yew tree in the yard, and a plate commemorating the date upon which the Porlock Guild of Bell Ringers rang their first true and complete peal of Grandsire Doubles.

These matters paled before the burning interest of the hunt. Tall, lean, tanned Englishmen and women, clad in horsy clothes, came to discuss horses and weather and brown ale with the well-rounded landlord. The pretty maids—and this is no mere figure of speech—trotted with tankards of bitters and plates of cold beef. Grooms walked horses in the street. Posters adorned the wall, setting forth the terms on which one might hunt with the Somersets:

"Thirty guineas for subscriber and family and guests hunting from his home for the season. Eighteen guineas for subscriber and one other. Twelve guineas for the subscriber alone, eight guineas for a month, or a guinea a day. Tenant farmers free. Guests are requested to subscribe to the deer-damage fund."

The first hunt of the season was on, the purpose of which was to drive the deer from the waterside coverts to the moors, dotted with beehives and peat-stacks, checkerboarded with stone walls, adorned in the brilliance of purple and yellow and brown.

One learned of the methods and manners of the hunt from the ripe old coachman who plucked at the reins of the four-horse coach and barked at the footman who had to put on the rough locks which enabled us to scrape safely down the hill. From a kennel at County Gate came the clamor of foxhounds.

"The dogs . . .," we began.

"Not dogs," said the coachman, magisterially. "Never dogs. 'Ounds."

A moment later we erred again.

"Not red," said the coachman. "Never red. Scarlet. The 'unting scarlet be'ind the 'unting 'ounds."

IN THE VALLEY OF THE DOONES

So we came to the Valley of the Doones, in which sheep wander bearing the "J R" of John Ridd upon their sides. We saw the Waterslide and the remnants of the Doone forts, and the little church in which Lorna was shot down at the altar. One gathered faith in the fine old story as a recital of fact rather than as a romance. One learns to believe easily hereabouts. Faith becomes habit.

So back across the base of the Cornish triangle to Fowey, most delightful of small towns, once a seaport that bade defiance to England's fleet, and the present Troy Town of Quiller-Couch's story.

And not far away are St. Just in Roseland and Polperro with fishermen mending their nets and calking boats upon the shore.

Then Plymouth and the London express.

WITH AN EXILE IN ARCTIC SIBERIA

The Narrative of a Russian Who Was Compelled to Turn Polar Explorer for Two Years

By Vladimir M. Zenzinov

With Illustrations from Photographs by the Author

TWELVE years ago I was compelled to turn polar explorer. Without any trial, by a mere administrative process, I was banished for a term of five years to the Yakutsk Territory of northeastern Siberia.

This was the third time that I had been exiled by the Tsarist Government. On the two previous occasions—the first from Archangel, the second from the city of Yakutsk—I had successfully escaped and resumed my political activities.

Special precautions were therefore taken this time. I was deported to the farthest possible north, a place to which no one had ever before been sent, and from which, it was generally believed, no escape was possible.

The settlement to which I was banished was called Russkoe Ustye. Even in the city of Yakutsk, the capital of the territory of that name, there was only a vague knowledge of the existence of this remote village—forgotten by God and man. It is situated under latitude 71° 1′ N., and in longitude 149° 26′ E., near the point where the Indigirka River enters the Arctic Ocean (see map, page 699).

A JOURNEY OF 2,000 MILES BY HORSE, REINDEER, AND DOG-SLEDGE

To convey an idea of the remoteness of this place from the rest of the world, I must go into some detail. The distance from Irkutsk, the Siberian metropolis on the Trans-Siberian Railway, to the city of Yakutsk is reckoned at about 2,000 miles. Communication between these points is maintained part of the way in summer by steamship on the Lena, and in winter by horses. The journey requires from 25 to 30 days, and in winter one must travel on horses day and night.

About the same distance must be covered from Yakutsk to Russkoe Ustye, except that communication on this stretch is far more difficult. Travel is possible here only in winter, when all the rivers, marshes, and innumerable lakes of this region freeze. In spring, summer, and autumn this part of the country is entirely cut off from the rest of the world by countless impassable swamps.

I was sent from Yakutsk under the guard of a specially selected Cossack, whose business it was to see that I did not escape again. We started at the beginning of December, 1912. After traveling only 130 miles we exchanged our horses for reindeer. These in turn were exchanged for fresh animals from time to time at various nomad camps.

Our road lay through the encampments of Yakuts, Tungus, and Yukaghirs, for there are no Russian settlements in this region.

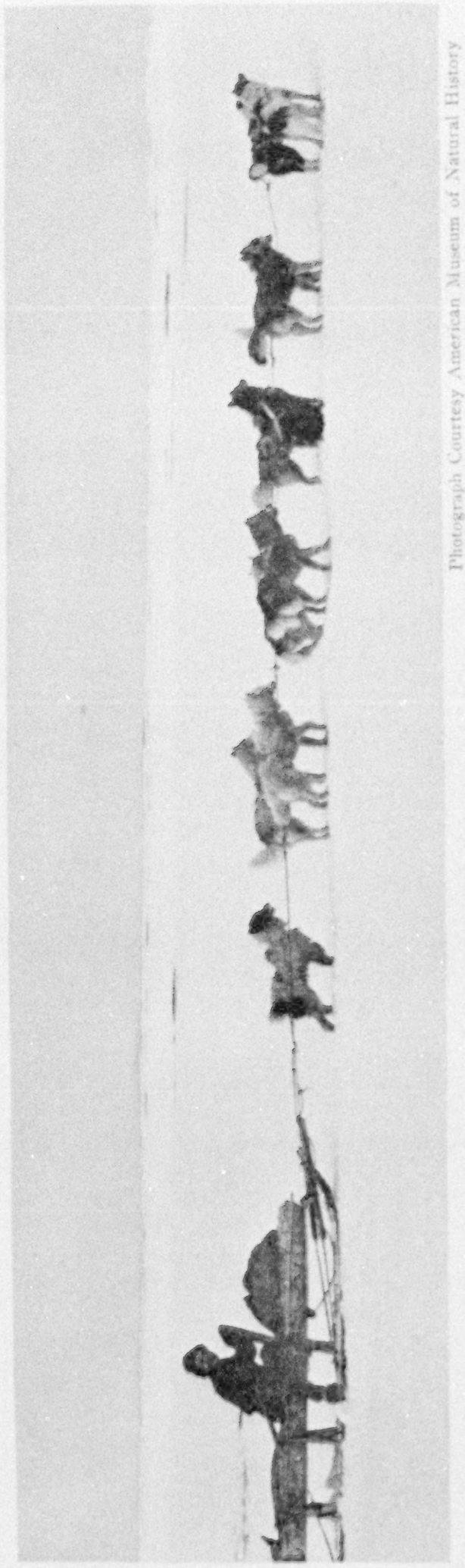
We reached the Indigirka River about the middle of February, and this was considered rapid progress. Here we were no longer able to use reindeer, and the rest of the trip had to be made by dog-sledge, a distance of more than 60 miles.

Thus the entire distance of 2,000 miles was covered, with the aid of horses, reindeer, and dogs, in about two and a half months.

The village to which I had been assigned was 4,000 miles from the nearest railway station. As the crow flies, Russkoe Ustye is much closer to the North Pole than by the customary route of travel to the nearest large city, Yakutsk, which is regarded, even in Siberia, as an out-of-the-way place.

BURIED IN AN ARCTIC BLIZZARD

We traveled north through the still primeval forests (the taiga), such as are found only in Siberia. We passed through deep ravines, winding channels, snow-filled beds of rivers, large and small, and crossed tall, rocky, forest-clad mountains.



Photograph Courtesy American Museum of Natural History

A POLAR YAKUT DOG-TEAM: A SMALL NUMBER OF YAKUTS IN THE EXTREME NORTH OF SIBERIA HAVE BECOME DOG BREEDERS

At night we would sometimes stop at a nomad tent or in some unoccupied hut constructed especially for travelers. These latter had always to be put in order before they were fit for human habitation.

We traveled during the coldest part of the year. The mercury never rose above 20° below zero (centigrade), and most of the time it hovered around —50°, and once, at Verkhoyansk, which is supposed to be the coldest spot on earth, I ran into a temperature of —71° C.

But far worse than these frosts and by far more dangerous were the snowstorms, which are considered seasonal in the northern Yakutsk Territory. I know of nothing more terrifying than these blizzards. Only the experience and familiarity of our Yakut and Tungus guides with local conditions brought us through alive.

One of these awful hurricanes of snow overtook us on New Year's Day, and I had to spend the night in the shelter of a wayside hut, buried in snow, roof and all. To the music of this howling Siberian blizzard I read, covered in a fur blanket and by the light of a flickering candle end, de Maupassant's "The Mediterranean Voyage," which made me feel very warm.

LARGEST RUSSIAN SETTLEMENT WITHIN 950 MILES CONSISTS OF SIX HOUSES

Descending from the high altitudes of a spur of the Yablonoi Mountains, we left behind the primeval Siberian taiga and entered the Arctic tundra.

The farther north we went the nearer we approached the open sea. The vegetation grew ever more scant. At first there were tall bushes of willow, but gradually they became lower and lower, finally disappearing entirely. All about was a limitless snowy expanse, with nothing on which the eye could rest.

Precisely in such a strip of Arctic tundra is situated the settlement of Russkoe Ustye.

Throughout the whole course of the Indigirka River, probably not less than 950 miles in length, Russkoe Ustye is considered the largest settlement. But it consisted of six dwelling houses only. The Russian word *dom* (house) has here become *dym*, which means smoke. And

Photograph by Knud Sorensen

IRKUTSK AND ITS PONTOON BRIDGE OVER THE ANGARA

Irkutsk is the finest and most important town in Siberia, due to its position on the Trans-Siberian Railway and to its commerce in tea. The city grew out of the winter quarters established by the Cossacks in 1652 for the collection of a fur tax from the Buriats. It is a journey of 2,000 miles from Irkutsk to Yakutsk.

Photograph by Knud Sorensen

CROSSING THE FROZEN ANGARA AT IRKUTSK

The Angara is a tributary of the Yenisei and is 1,900 feet wide at Irkutsk. The Irkut, from which the town takes its name, joins the Angara directly opposite the town. The Angara was discovered by Cossacks early in the 17th century.

this metamorphosis is perfectly justified, for in this land of polar frost and blizzards, a house without fire, or "smoke," is not considered a house.

The population of this settlement numbered 22 souls. My arrival made it 23. All the colonies on the Indigirka River, scattered along its course in settlements of from two to four cottages each, do not comprise more than 400 persons.

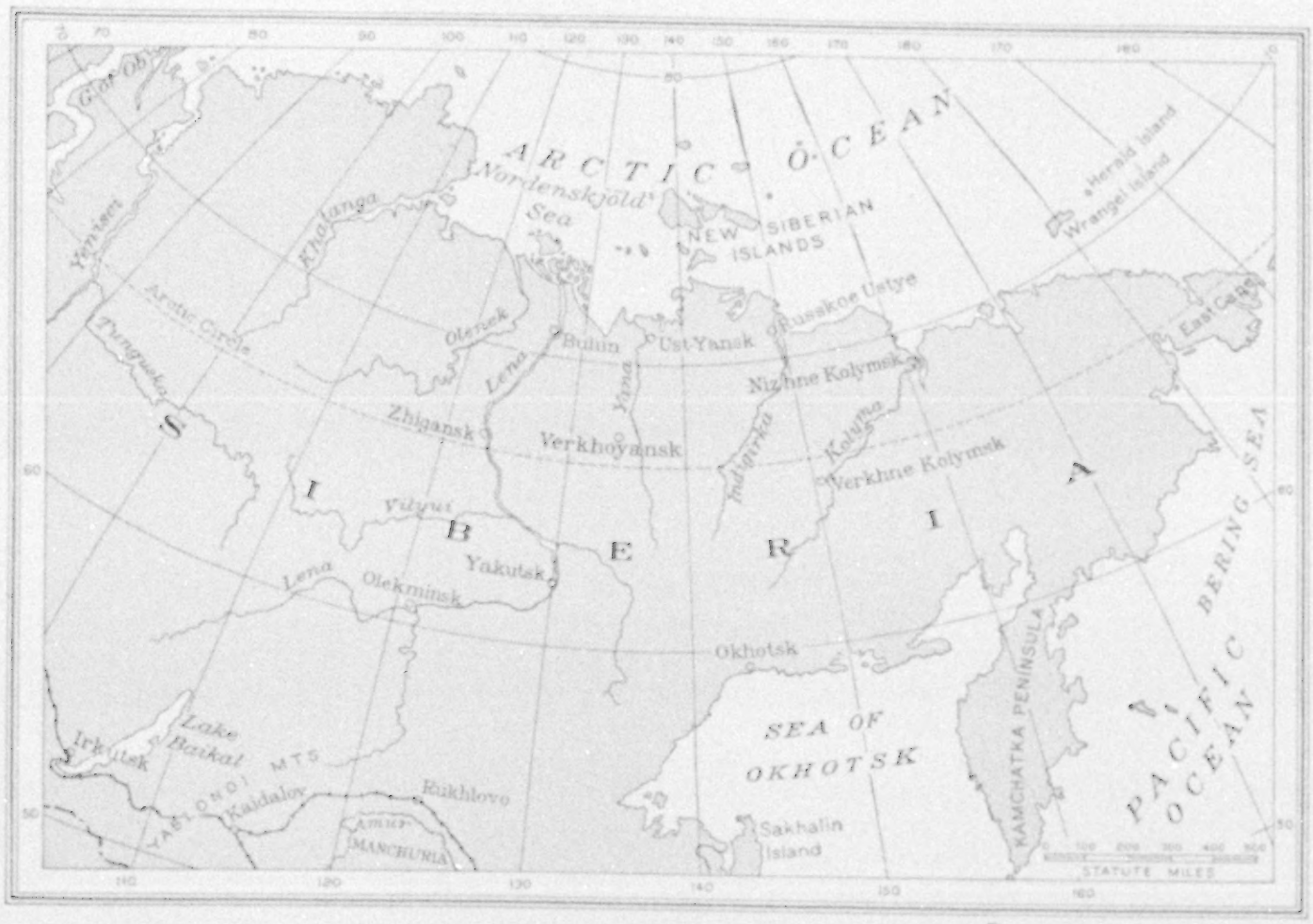
These Russians represent, as it were, foreign islets in the sea of the aboriginal Yukaghirs, Tungus, Yakuts, and Chukchi, who surround them everywhere. The aborigines live as nomads, raising reindeer, while the Russians have a settled mode of existence along the banks of the river, and use dogs instead of reindeer.

This is a most peculiar and isolated little world. The inhabitants cling tenaciously to their ancient customs. They have preserved the Russian language, unlike the other Russians living in the northeastern parts of the Yakutsk Territory, who have almost completely amalgamated with the aborigines and lost not only their language, but nearly all of their other national characteristics.

For this reason, therefore, the Russians along the Indigirka are undoubtedly of immense interest to the ethnographer. To begin with, it is curious how they ever got to the banks of the Indigirka, so remote are they from the city of Yakutsk, the center from which emanated the historical progress of the Russian conquest and settlement of this territory.

I was fortunate to find, among a pile of old documents abandoned in a deserted hut at Russkoe Ustye, some papers from which it may be concluded that the first Russians had already reached the Indigirka in the 16th century, during the reign of Ivan the Terrible, perhaps even before the conquest of Siberia by Yermak.

There is good reason for assuming that these pioneers came by boat from European Russia over the Arctic Ocean, and not by land, from Yakutsk. This is indicated by their preservation of the physi-



Drawn by A. H. Bumstead

A MAP OF SIBERIA

The author, a political exile, was sent by way of Irkutsk, metropolis of Siberia, to Yakutsk; thence by horses and reindeer sledges to the Indigirka River; then by dog-sledges to Russkoe Ustye, his destination and place of banishment, within the Arctic Circle.

cal characteristics of the Russian type, the quaint nature of their Russian speech, their folk songs, poetry, and marriage customs, which have long ago disappeared in the Yakutsk Territory proper.

These Russians along the banks of the Indigirka seem to have existed in a state of abiosis for centuries, cut off from the rest of the human race by impassable swamps and boundless distances. Time itself seems to have been powerless to change anything in this part of the world.

I personally had to experience the isolation of this territory. I doubt whether there is a spot on the face of the earth more remote from civilized life than Russkoe Ustye. Central Africa, Borneo, Celebes, Patagonia, and Senegambia have closer contacts with the world.

Here the nearest points of "civilization" are Ust-Yansk, a village of about 30 dwellings, not less than 300 miles in an airline to the west, and, in the east, Nizhne Kolymsk, with 25 houses, about the same distance away.

None of the inhabitants of Russkoe Ustye had ever gone beyond these two points, nor had any ever been to Yakutsk. Names like St. Petersburg and Moscow sounded to them like fairy tales. It is, therefore, not surprising that the real inhabitants of Russkoe Ustye are not very much above the state of primitive savagery. There is not a single literate person among the settlers along the Indigirka. I was the only civilized person to stray into this peculiar region.

AUTHOR'S EQUIPMENT CAUSED EXTRAORDINARY EXCITEMENT

Of postal communication there was, of course, not even a trace. Answers to official correspondence could be obtained from Yakutsk after one and a half years, at the earliest, and this only by special messenger.

I was able to receive mail from my home only twice a year, at the beginning and end of the winter. At these seasons we would be visited by traders from the

TUNGUS FROM THE KHARAULAKH (BLACK WATER) VALLEY

The name "Tungus" covers several tribes, scattered from the Yenisei Valley to the Pacific Ocean. They are a good-natured, hospitable people and endure hunger, cold, and hardships of every kind with surprising fortitude. One authority calls the Tungus "the nobility of Siberia."

south, who brought merchandise from Yakutsk to exchange for the furs of the local hunters and trappers; but not once did a letter from Moscow reach me earlier than after seven or eight months.

My arrival at Russkoe Ustye was a most extraordinary event. For some time I was visited not only by the natives, but by those of the neighboring settlements as well. They examined me very carefully, in complete silence, just as one scrutinizes some strange animal.

Much of what I had brought with me was seen here for the first time. Almost with a feeling of reverence did they touch my fine Winchester rifle, which I had been permitted to take along after some lengthy "diplomatic negotiations" with the Governor of Yakutsk. The natives themselves are armed mostly with bows and arrows and spears, with which they bravely face the polar bear. Only a few possessed very poor shotguns.

They did not understand the purpose of many articles, such as thermometers, large books, and a photographic camera, which I proceeded to unpack. Especially profound was the impression produced by a very ordinary kerosene lamp. I also managed to bring twenty pounds of oil.

The little boy of a neighbor happened to be present when I unpacked the lamp, and here is how he described the event:

"He took out," said he, breathless with excitement, "a bright shiny teapot and put a plate on top." It was an enameled metal lamp with a china shade.

In the evening word was passed from house to house:

"He has lit it! He has lit it!"

Then many called expressly to see the lamp, one curious fellow traveling with dogs for more than 50 miles.

These people illuminate their houses either by logs in the fireplace or by smoky little night lamps burning blubber. Altogether, I, with my curious baggage, habits, and accomplishments, appeared to them a being out of Mars or the moon, rather than a common mortal.

For 20 rubles a year I rented a house

THE "WATER WAGON" IN YAKUTSK

Yakutsk is the chief commercial emporium for the whole of eastern Siberia and is the great fur market of the north. Its streets are singular in appearance, in that the spaces intervening between the European houses are occupied by the winter tents of the nomads. Yakutsk suffers from frequent floods and is therefore unhealthy.

A HOME IN THE VERKHOYANSK DISTRICT

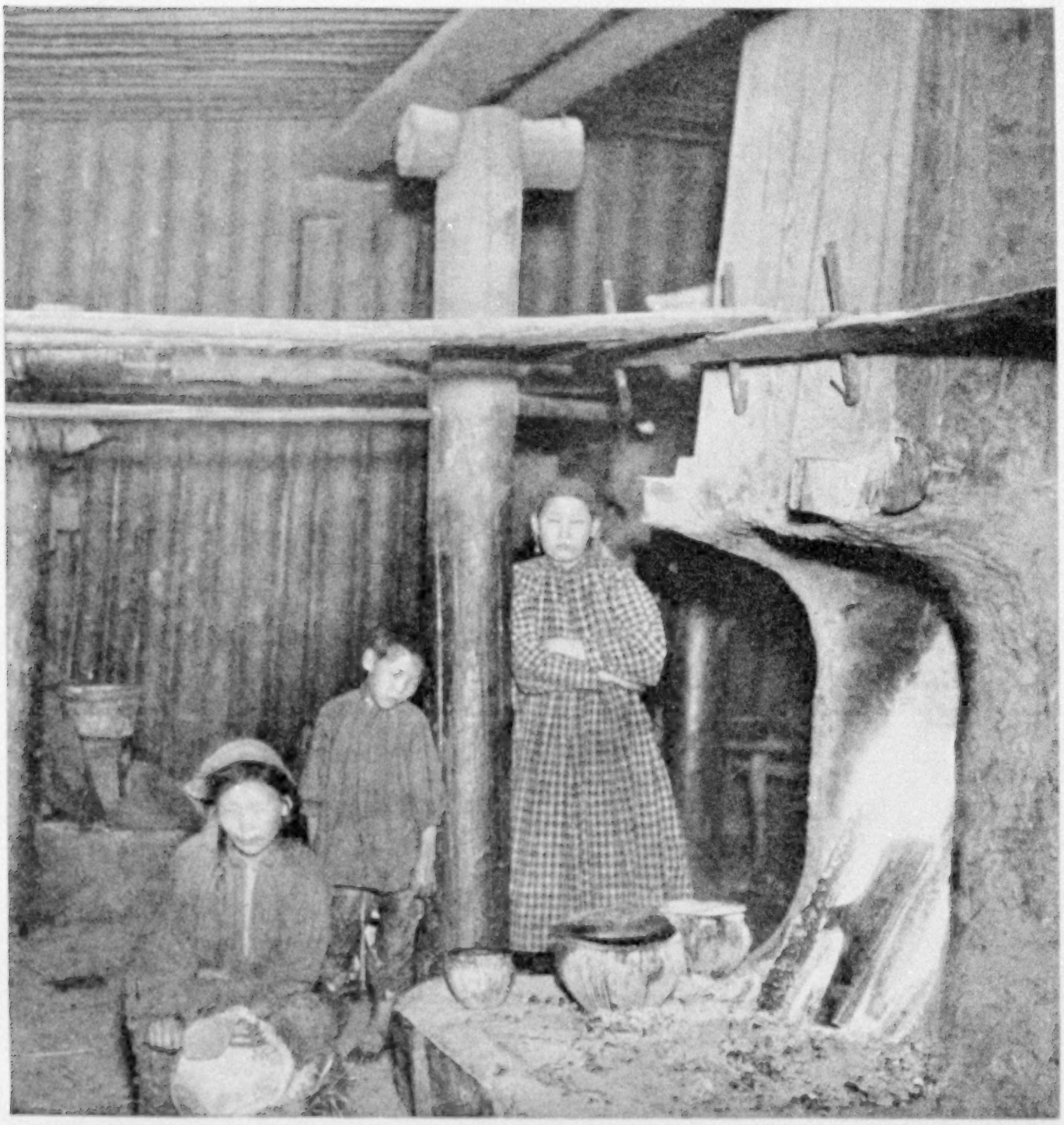
This photograph shows the tent of the elder of Borogon township. The city of Verkhoyansk has only 73 days a year without snow, yet barley sometimes ripens here and vegetable-growing is carried on in a small way. It was formerly an exile station. The woman of the group stopped puffing her pipe long enough to pose for her picture.

PLAYTIME IN THE COLDEST PLACE IN THE WORLD

The city of Verkhoyansk, some 70 miles above the Arctic Circle, lies within the earth's pole of cold. So far as recorded temperatures go, it is believed to be the world's most frigid inhabited spot (see text, page 696). The settlement at Russkoe Ustye, however, has the lowest annual temperature recorded (see text, page 706).

THE NATIONAL DANCE OF THE TUNGUS

This dance is called "I Sing," in reference to the monotonous chanting which accompanies it. The dancers form a circle, join hands in the manner pictured above, and move to the tempo set by a leader. The dance may last for hours.



Photograph courtesy American Museum of Natural History

THE INTERIOR OF A RICH YAKUT'S HOUSE

The typical winter dwelling of the Yakut is the *yurta*, one section of which is occupied by the cattle. Its walls are made of logs or wicker, calked with cow dung, and flanked with banks of earth. Light penetrates through windows of skin or ice sheets. The chimney is of wood, guarded against fire by a thick covering of clay. The Yakuts are probably the most intelligent of the Siberian natives. Their civilization is superior to that of the Tungus and they absorb a large number of Russian settlers.

from one of the citizens of Russkoe Ustye and established myself according to my tastes. My interior arrangements, the pictures and the calendar on the wall, dishes, samovar, and books aroused the keenest and most persistent curiosity throughout my stay.

Many a curious thing did I see in this part of the world, and I experienced much that was novel and unexpected. For several years I was compelled to live under conditions that recalled the experiences of Robinson Crusoe or Nansen. No wonder, then, that a few years ago, when I had occasion to meet the latter in Paris, we soon found topics of conversation that proved equally absorbing to us both—Eskimos, dogs, fish, arctic fox, blizzards, etc.

A philosopher and an economist by

EXILES ON THEIR WAY TO DESTINATIONS ALONG THE LENA

Under the Tsarist regime most of the political exiles were sent to central and western Siberia; the convicts were confined mainly to the Lena territory.

AN EXILE CAMP

Until 1900, convicts were exiled to Siberia in great numbers. Many abuses arose from the system, and, later, imprisonment was substituted for exile, except in the case of political offenders. The practice was abolished during the World War. An unforgettable picture of the life of the exile is contained in Dostoievsky's "Buried Alive in Siberia," written after the author's experience of four terrible years, in which he described himself as "a man buried alive, nailed down in his coffin."

A TUNGUS CAMP

The Tungus have no towns, villages, or houses, as a rule, but live in groups of rarely more than two or three tents. Their winter yurta is usually made of skins. Most of the tribesmen are classed according to their pursuits, as Reindeer (the largest group), Horse, Cattle, Dog, Steppe, and Forest Tungus. They hunt fur-bearing animals and exchange skins for the necessities supplied by Russian and Yakut traders. The Tungus use the reindeer for drawing sledges and for riding.

education, I was forced to turn physician, meteorologist, zoölogist, botanist, ornithologist, photographer, carpenter, and what not. For many hundreds, perhaps thousands, of miles around, I was the only civilized and educated human being, and my semibarbarous neighbors would come to me for all kinds of advice, medical included.

About me was so much that was interesting and unusual that I could not help making a collection of the most diverse zoölogical, botanical, and ethnographical specimens. Of these I was able to send back to civilization several cases, which I presented to the University and the museums of Moscow. In addition, I published after my return several small books dealing with this unknown region, which proved to be a veritable discovery to the ethnographical world.

Of course, I had to do everything by myself. With the aid of my Winchester and some nets, I had to obtain my food—reindeer, wild geese, fish. I had to do my own cooking, keep my cottage in repair, and gather firewood and ice (which takes the place of water) for the kitchen.

In a word, mine was precisely the life of Robinson Crusoe, the life of a hunter and fisher, cook, woodchopper, carpenter, and water- (*i. e.*, ice-) carrier, tailor, shoemaker, etc. Therefore, when friends asked me if I was lonely during my exile, I could answer in all sincerity that I had no time to feel lonesome.

WINTER DAYLIGHT LASTS ONLY TWO OR THREE HOURS

In appearance, Russkoe Ustye was nothing but a miserable cluster of a few snow-swept wooden huts and barns. In every direction, as far as the eye could see, there was snow, snow, snow. Here and there was a clump of dwarfed shrubbery, buried under the snow in the winter. Amid the monotonous landscape of this white desert one distinguished with great difficulty the cottages, half hidden from sight by the snow piled up against them.

THE AUTHOR AT RUSSKOE USTYE

Among the 23 Russians at Russkoe Ustye and the 400 settlers along the Indigirka River—in a region covering thousands of square miles—the author was the only educated individual. In that peculiar and isolated world, the Russians have not amalgamated with the natives and are therefore of unusual interest to the ethnographer.

The settlement was especially dreary during November and December, when the sun disappeared altogether from the horizon, and the dim twilight called "daylight" lasted only two or three hours. This was the most cheerless season of the year, and the sad howling of the dogs in the darkness seemed almost unbearable to one unaccustomed to it.

The winter nights were at times magnificent. In the black velvet of the sky the stars, which would make their appearance about 3 o'clock in the afternoon and twinkle until 11 o'clock in the morning, blazed like diamonds! Almost every night there was a most brilliant northern illumination, but I got so used to it that I seldom paid any attention to it.

Owing to the nearness of the sea, the cold here registers rarely lower than —50° C. But the winter blizzards are frequent and terrible. They stifle a person, cut off the breath, throw one off his feet with lashing volleys of snow, and make it impossible to see farther than five steps ahead.

Woe to the traveler overtaken by such a storm on the road! When encountering such a catastrophe, only one hope remains: to find shelter, together with the dogs, under the upturned sledge and wait for a change of weather.

In the course of a night these hurricanes are liable to bury one's cottage, roof and all, leveling the snow on the surface so that a person may drive across it without even suspecting that a human dwelling is underneath. My own house was on several occasions snowed under, once on the first of May, and I was forced, molelike, to dig a tunnel in order to get out.

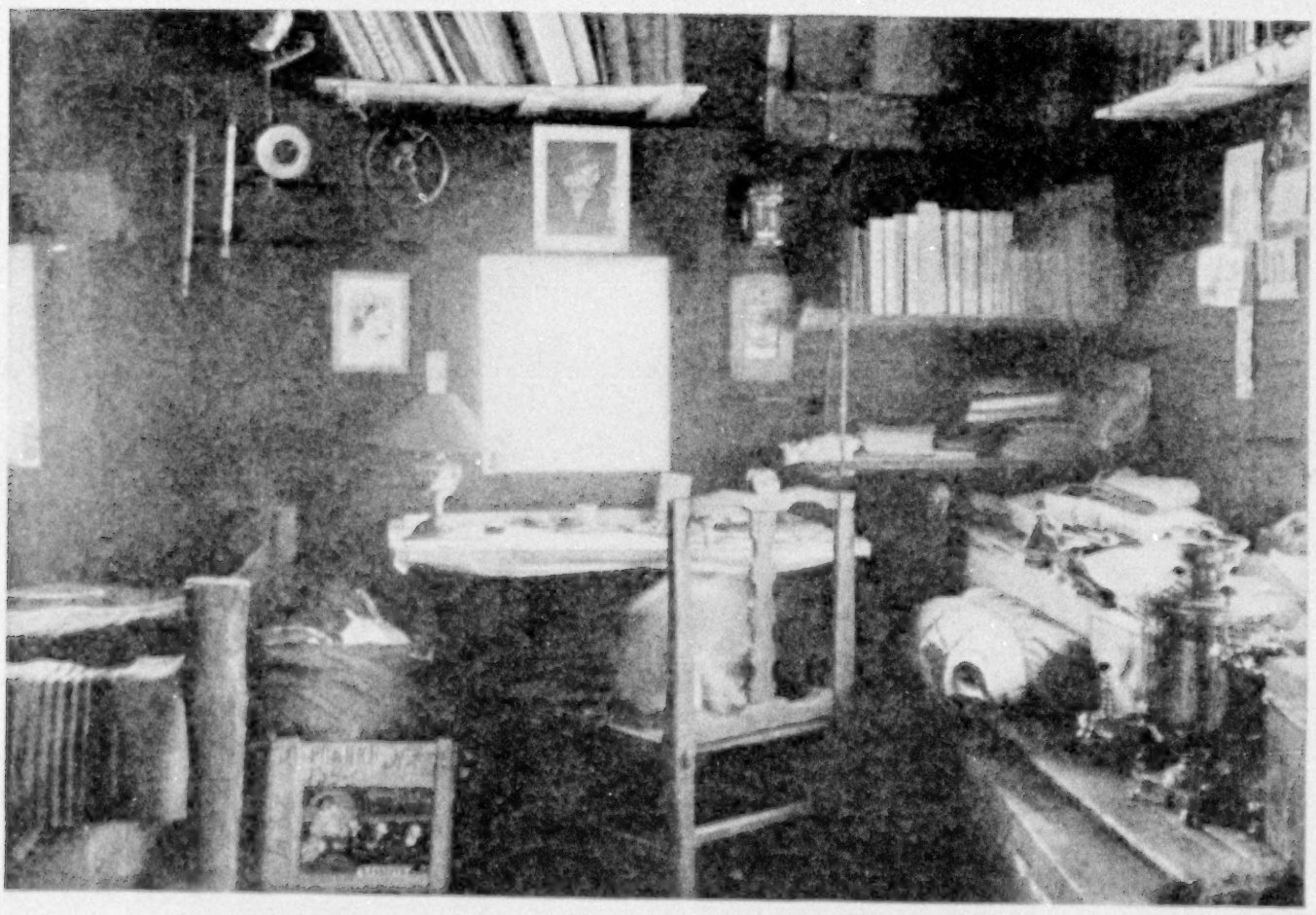
During such a blizzard it is dangerous to go even ten steps from the house, and those who have to do it usually hold on to a rope.

WINTER LASTS FOR EIGHT MONTHS

The annual temperature at Russkoe Ustye is the lowest of all those places where meteorological observations have been made. It is also one of the northernmost inhabited spots on the globe.

THE AUTHOR'S HUT IN RUSSKOE USTYE

Here the exile lived the busy life of an Arctic Robinson Crusoe, and also studied and ministered to the natives and to the few Russians in the settlement.



THE INTERIOR OF THE HUT

The books, dishes, samovar, pictures, and calendar aroused keen and persistent curiosity among the natives during the author's stay. On the table is the kerosene lamp, which, when unpacked and lighted, furnished an event of intense excitement (see text, page 700).

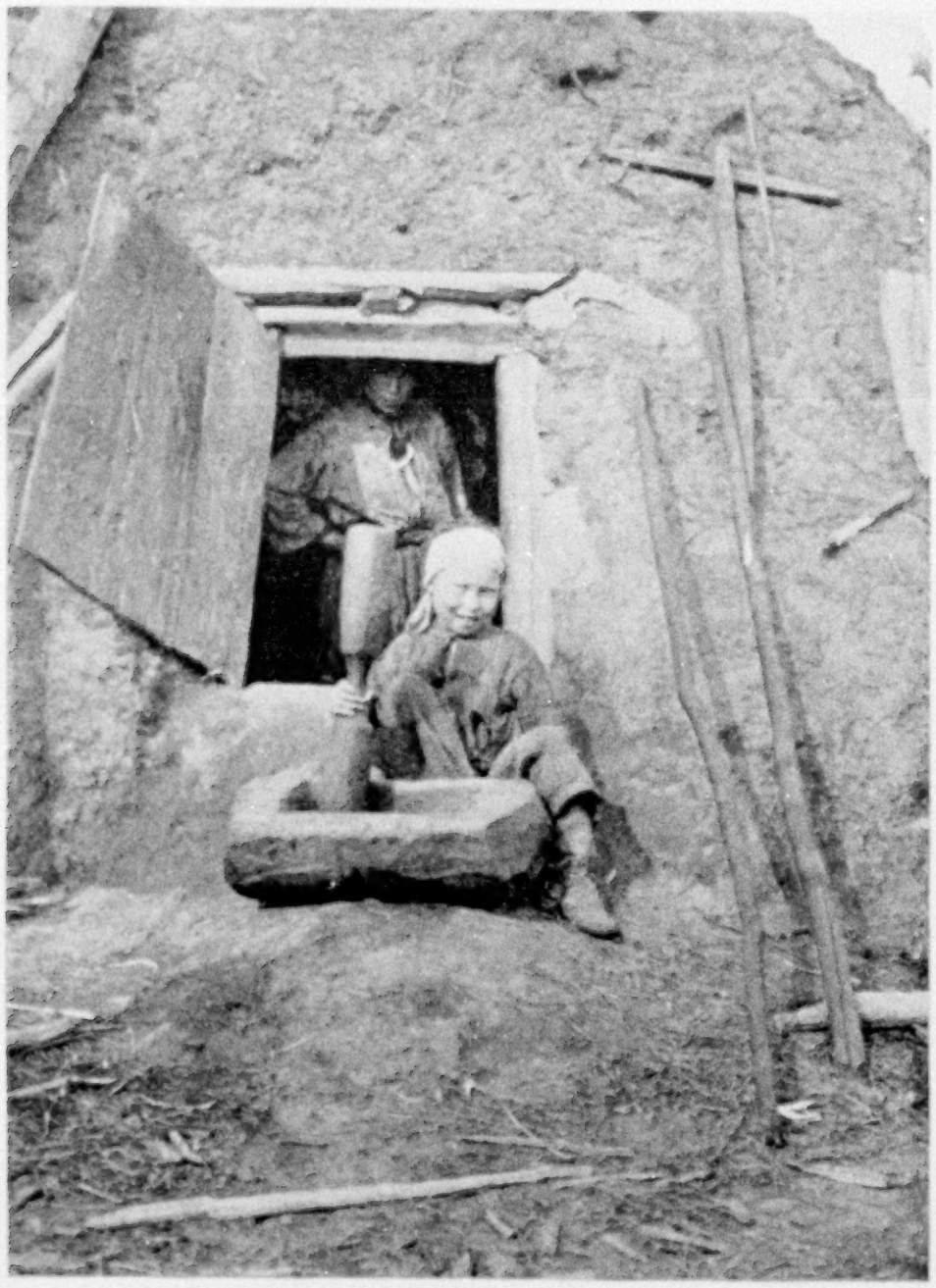
LEARNING TO PADDLE HIS OWN CANOE

Throughout the lower Indigirka region there are no forests, for the ground is permanently frozen below a depth of two feet. The natives of Russkoe Ustye have never seen a tree growing. The driftwood and fallen trees which the river currents sweep north in spring and summer are eagerly collected for use as firewood and building material.

WATERPROOFING HIS BOAT WITH A COAT OF SULPHUR

On expeditions to hunt geese, each hunter must travel in a light boat or canoe, due to frequent need for portage from one swamp to another (see text, page 717). The natives show great skill in paddling against strong winds and heavy currents.

The winter lasts eight long months, from September till May. The summers are warmer than one would expect, the temperature in the sun registering up to 30° C. (86° Fahrenheit), but it is very rarely that a summer passes without a snowstorm. A summer "day," during which the sun never disappears below the horizon, lasts almost three months—from April 28 till July 20. The Indigirka thaws generally during the first days of June.



CRUSHING DRIED FISH TO MAKE SOUP

The local fish, *muksun*, which belongs to the salmon family, is excellent when cooked, but it is often dried in the sun and smoked, being regarded as a delicacy. It takes the place of bread, of which the natives are ignorant.

NO NATIVE HAS SEEN GROWING TREE

The flora is of the scantiest. In summer the ground thaws to a depth of only two feet; below that it is forever frozen. Throughout this region there are no forests. Not a single native of Russkoe Ustye has ever seen a tree growing; to them a common fir tree is as much of a curiosity as a tropical palm tree to a Northern person.

The shrubs of the willow extend 10 miles toward the sea and then come to an end (it is about 45 miles from Russkoe Ustye to the Arctic Ocean). There, even grass ceases to grow.

In summer, no matter where one turns, one can see nothing but swamps. In spring and summer the Indigirka brings on its currents from the south large numbers of fallen trees. These are eagerly picked off the banks by the natives, for this driftwood makes it possible for them to withstand the intense winter cold, and they likewise build their dwellings of it.

The staple food of the natives is fish, which is taken in summer as well as in winter (under the ice). Sea food is also fed to the dogs.

The local fish is excellent, especially the *muksun*, which belongs to the salmon family. It is usually cooked, but is often dried in the sun and smoked. So prepared, it serves in place of bread and is regarded as a delicacy.

More often, however, the fish is frozen and eaten raw, and is called *stroganin*, or sliced fish. The skin is removed and the fish is cut in slices with a sharp knife. It must be eaten frozen with salt. I do not hesitate to say that it is very savory.

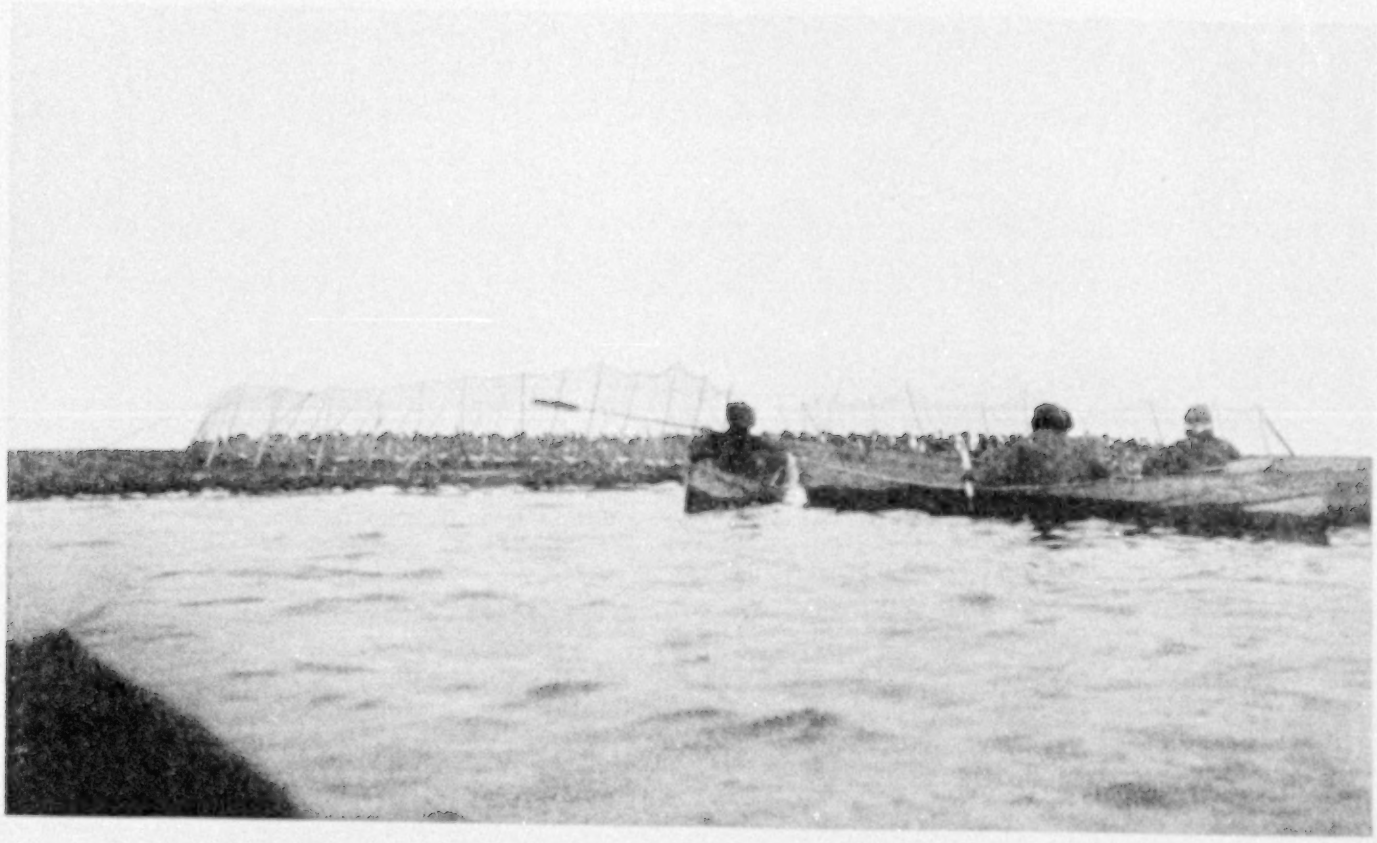
Generally, in these northern regions, a

FISHING FOR HERRING AT RUSSKOE USTYE

The natives take the herring in summer and in winter (under the ice). Sometimes the fish is dried, but more often it is frozen and eaten raw. The skin is removed and the flesh sliced thin. It is a savory food when eaten with salt.

CAMP OF GOOSE HUNTERS ON THE COAST NEAR RUSSKOE USTYE

During the molting season, huge flocks of geese gather along the shores of the Arctic Ocean. The hunters, knowing the birds' helplessness at this period, capture thousands of them for food. Due to their primitive weapons, the natives are unable to kill these birds at the time of their spring migration.



NATIVES DRIVING GEESE INTO THE NET-TRAP

"A flock of geese is surrounded by the hunters in their canoes, while on the shore the nets are spread like traps, open toward the water. The geese are slowly driven toward the nets and finally chased inside" (see text, page 717).

THE SLAUGHTER OF THE GEESE

After the flock has been driven into the net-trap, the net is tightened and the killing begins. The birds are grasped below the head and whirled in the air, thereby breaking their necks. Afterwards they are buried in the mud and left to rot for several weeks. Though this food is primarily used for the dogs, the native himself does not disdain it.

XUM

ON THE BANKS OF THE LENA, NEAR BULUN

After the author's frustrated attempt at escape from Russkoe Ustye he was forced to spend the three remaining years of his exile at Bulun (see text, page 718). Note the two men in the middle distance, near the base of the bluff.

A RIVER SCENE ON THE LENA: BULUN

Fish is the staple food of the inhabitants of the Lena region. The fishing industry is important on the lower reaches of the river, and much of the catch is exported annually by steamer from Bulun up to Yakutsk.

REFUELING ON THE OLENEK RIVER

The Olenek, 1,200 miles long, enters the Arctic Ocean some 90 miles west of the Lena delta. It is six miles wide at its mouth. The rivers form the chief highways of Siberia, their transportation value being enhanced by the vastness of the plains, the dense forests, and the swampy tundra, all of which make land traveling difficult and sometimes impossible.

person must get used to the food. For a long time I was unable to believe that the raw, frozen marrow of reindeer bones was delicious. I finally tasted it and found that it suggested the taste of good ice cream.

Of bread the natives are completely ignorant, and I, too, had to forget about it during my exile. Frozen bread is brought in by the wealthiest traders, who treat their friends to it as one might treat a person to chocolate. All my inquiries among the natives failed to elicit a satisfactory answer as to how grain grows, how it is turned into flour, and how the flour is made into dough.

The traders also bring sugar, but it is regarded as a great delicacy, and even the wealthiest families serve it to their guests only on holidays.

FOX SKINS BARTERED FOR NECESSITIES

Some variety in the natives' menu is furnished by reindeer meat, but this animal is rarely caught hereabouts.

Other necessities are obtained by exchanging the skins of the arctic fox, the Indigirka region being one of its chief habitats. The animal is caught with wooden traps. Traders from the south, who come here in order to get the fox skins, bring all kinds of articles for barter.

Besides arctic fox and reindeer in winter, there are also hares and polar bears.

Native birds include the white partridge and white owl. The former is very numerous and is caught with snares. In spring, when it is love-mad and blinded by the dazzling reflection of the sunlight on the white snow, it permits one to approach very close, and often stays about houses like a homing pigeon.

Swamp birds in overwhelming numbers begin to arrive about the end of May—geese, cranes, ducks, gulls, and all kinds of snipes.

This influx may be appreciated only by those who have seen it. Screeching, gabbling, and piping shrilly, dense swarms fill the air day and night. The white

TRADERS AT BULUN

These men with a Siberian variant of the "covered wagon" are traveling westward from the Lena to the Olenek River. The *narta* (sledge) of the far north is a light, narrow vehicle from 9 to 14 feet long and is sometimes, as above, fitted with a movable hood as a protection against snowstorms. The runners are usually birch poles and the whole is held together with cords, as nails would be speedily jerked out when traveling over rough ground.

swans pass in orderly flocks; the geese fly in long chains; ducks glide past in disorderly throngs.

WINTER SILENCE BROKEN BY TRIUMPHANT RETURN OF THE BIRDS

This tempestuous arrival, after the oppressive silence of winter, seems like a triumphant bacchanalia. Between sky and earth strives and quivers an overwhelming wave of life. Every little puddle, every tiny hummock, becomes a whole world pulsating with life. Each bird leaps, jumps, flutters its wings, pipes, and sings, according to whatever talent the Creator has given it.

Each is busy with his own, and, for him, very important and exclusive affairs, paying no attention to his neighbor. When some feathered pirate appears, groups rise into the air as one solid flock, only to return to the same place, which another covey has already managed to occupy. One flock replaces another, and it seems that the migrants feel crowded, even in this boundless vacuum.

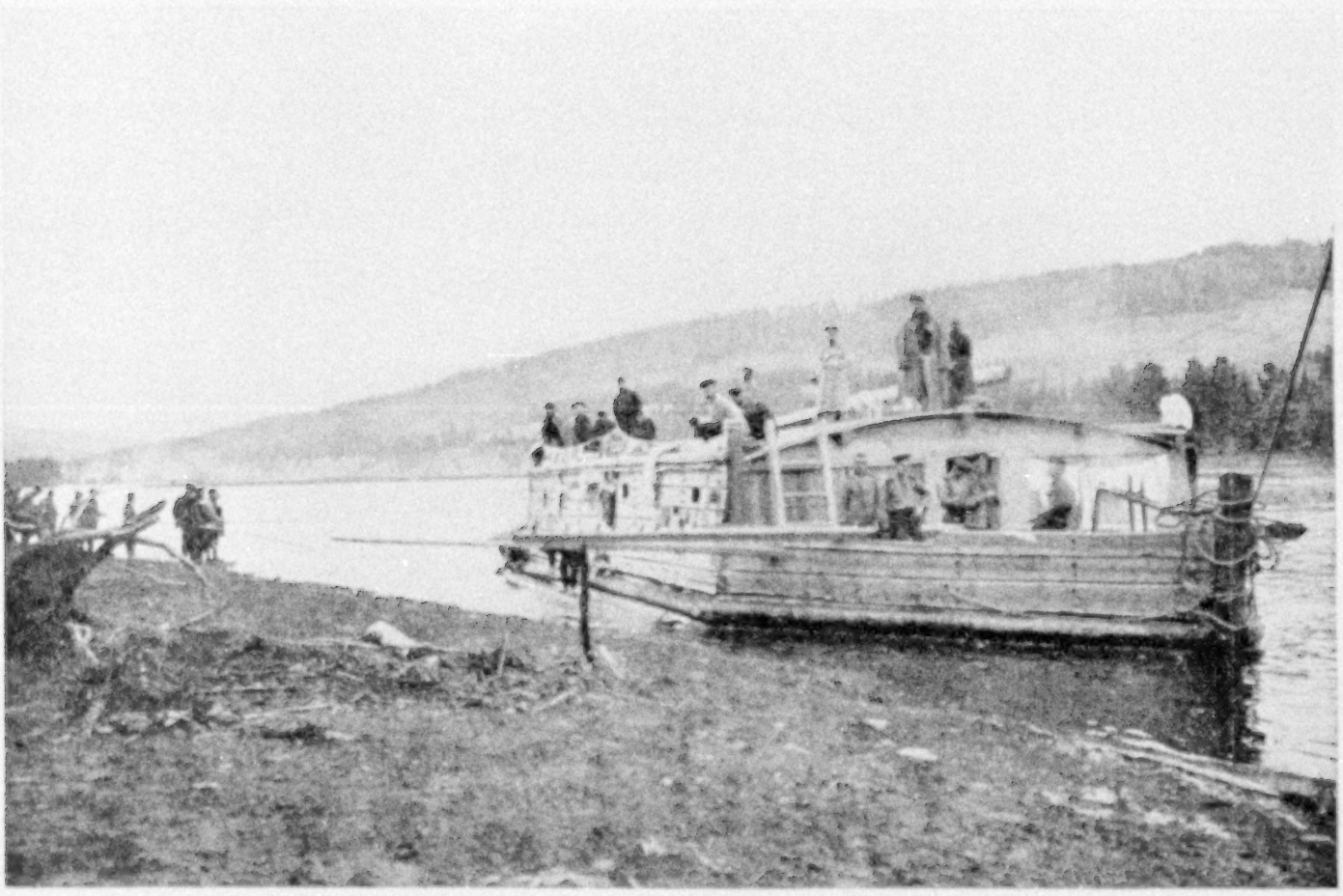
It is hard to describe how, after the dreary silence of the winter, this noisy, palpitating stream of life stirs and disturbs the exile. Sleep and food seem bothersome details.

Early in the morning, the gabbling of the geese would drive me from bed, and, getting hold of my rifle, I would start across swamps and snow for the tundra. In the evening I would return, half-dead with fatigue, feet aching, and bones heavy as lead.

Even my dreams were full of the cries of birds and the beating of wings.

Owing to their primitive weapons, the natives have no way of utilizing this spring migration of birds, to add to their supply of food; but during summer they gather geese in enormous quantities.

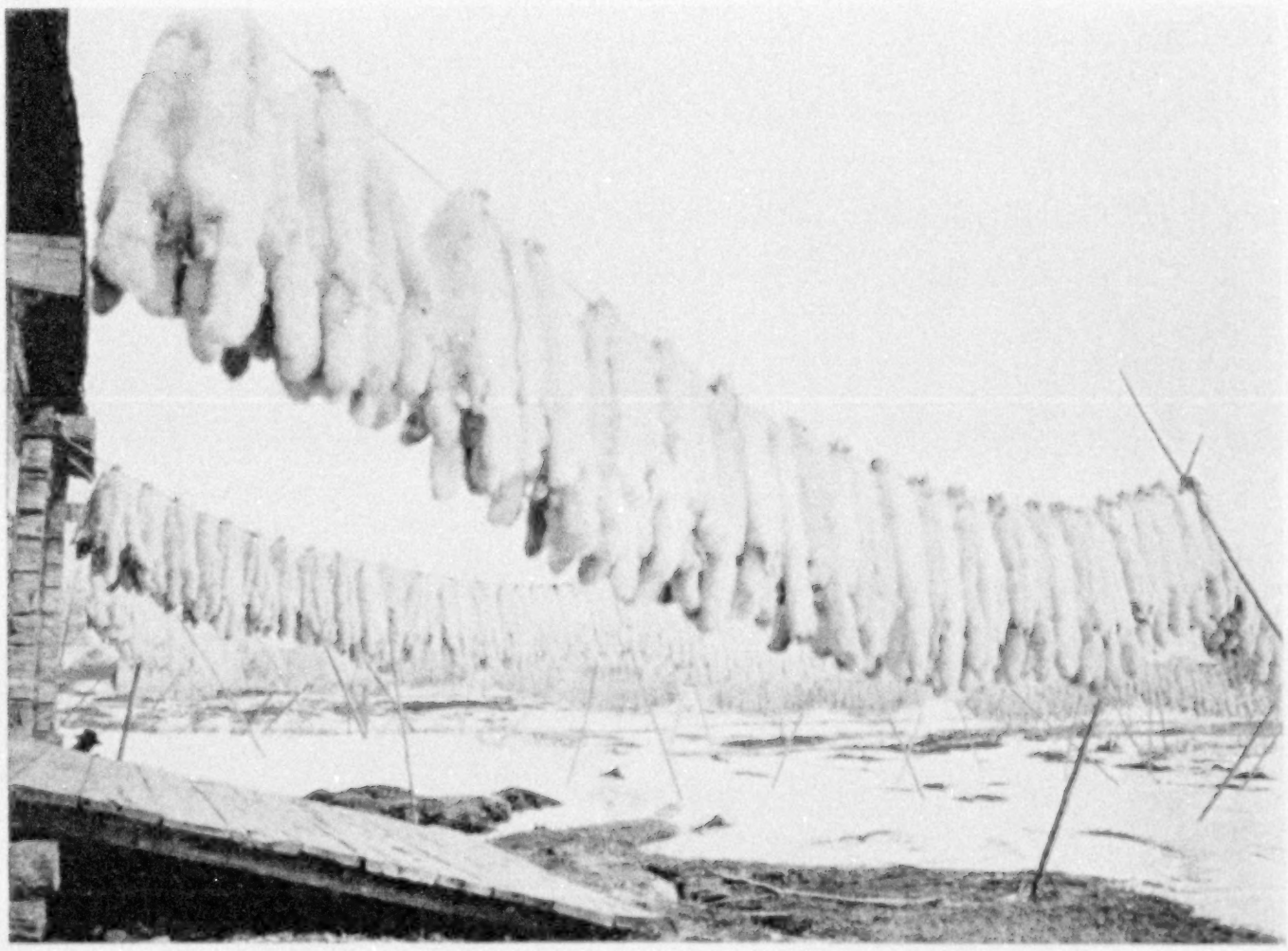
Geese cast their feathers in summer—in this region, between the 8th and the 20th of July. They molt differently from



A LENA RIVER BARGE, WITH TRADERS

THE STEERING GEAR OF THE "PAUZOK" (BARGE)

The rivers, of all the physical features of Siberia, have had the most progressive influence on the country. The Lena is one of the mightiest rivers in the world. Its total length is estimated at about 2,860 miles and its drainage area at 900,000 square miles. Tusks of the mammoth have been dug out of its delta (see also text, page 718).



A FORTUNE IN FUR: 5,000 ARCTIC FOX SKINS

These fox skins are the property of a trader at Bulun. Fur is the oldest established trade of Siberia and was originally the lure of the invaders. The Indigirka River basin is now the center of white-fox hunting, and the skins are bought up by agents of the Ust-Yansk and Yakutsk merchants.

other birds, losing almost all the feathers from their wings simultaneously. During the molting season, therefore, geese lose the power of flight and become helpless until they grow new feathers.

This fact is well known to the professional native hunters, who try to take advantage of their opportunity. During the molting season the birds collect in huge flocks, millions of them, near the sea and along the shore of the Arctic Ocean. The hunters, knowing where the geese gather, organize hunting parties in boats.

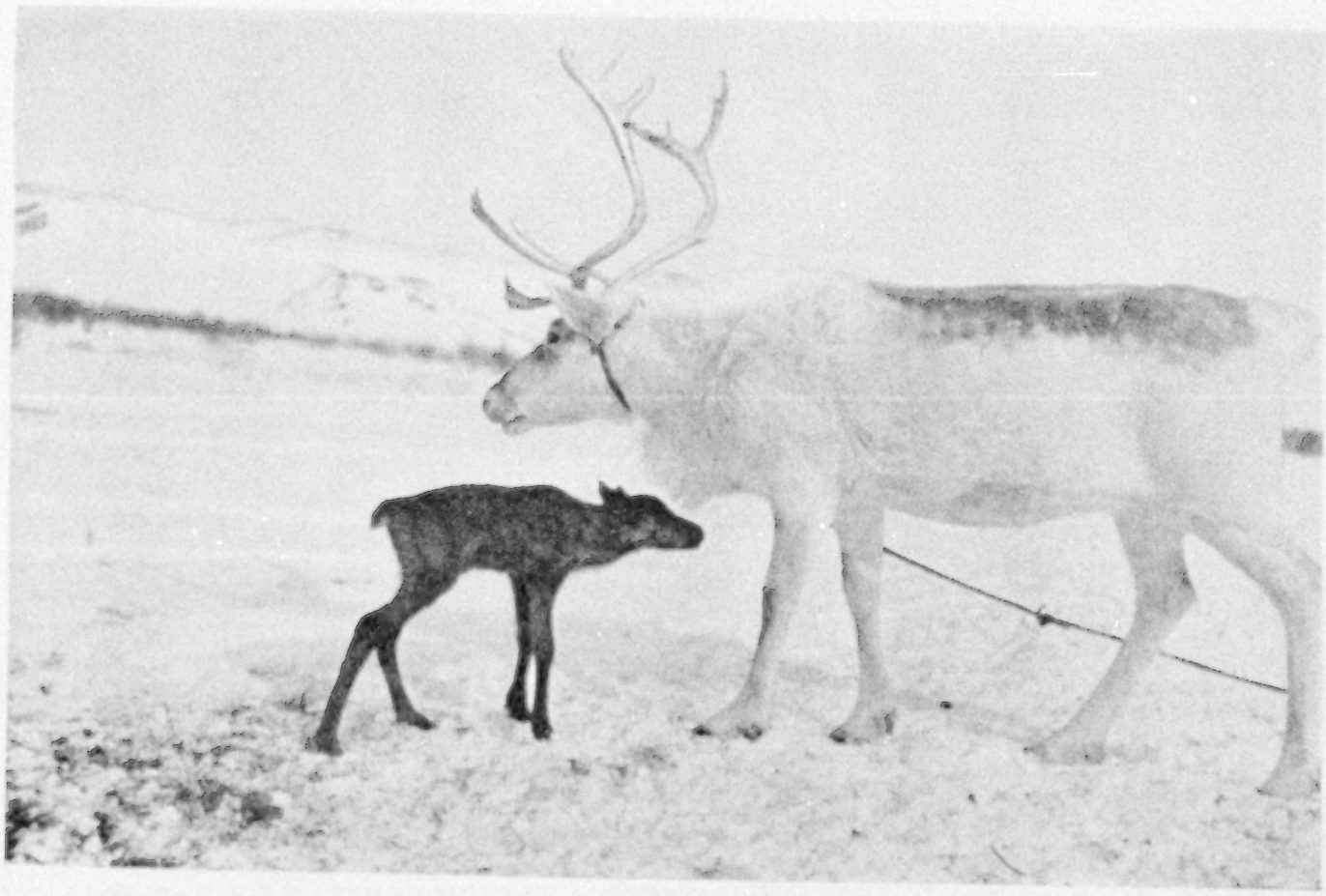
These expeditions are frequently fraught with danger. Each man has to travel in a canoe and handle a two-bladed paddle. Only light canoes make it possible to cover long distances, as there is frequent need of carrying the boat from one swamp to another.

I succeeded in obtaining permission to participate in one of these expeditions, but only after a curious incident. The natives were opposed to my going, assuring me that the trip would be too hard and perilous. In their opinion, I was certain to lose my life because of my inexperience.

I soon realized that it was not my welfare they were worrying about, but rather that they were afraid of being held responsible for my death. To them, I was Government property, a person sent thither by the Tsar, and they were worried lest they be made to answer to the authorities, in the event that I should come to grief.

I thereupon wrote a document very much like a confession of suicide, in which I solemnly declared that I had joined their expedition of my own accord, and that if I should perish the fault would be solely my own. After I handed them this paper, and explained its contents, all objections to my participation disappeared.

The expedition really did prove to be full of hardships. We had to make our



A REINDEER WITH A TWO-DAYS-OLD CALF

Well-fed deer have been known to cover 100 miles in a day. In riding a reindeer the Siberian native places the saddle not on the back, which would cripple the animal, but on the shoulders. The rider gains his seat by means of a pole and keeps it by a swinging motion, balancing himself with the pole.

way down the Indigirka to the Arctic, cross a bay at least 15 miles wide, and finally drag our canoes for a very long time from swamp to swamp. The place where we were to hunt was at least 70 miles north of Russkoe Ustye.

A PERILOUS GOOSE HUNT IN ARCTIC SWAMPS

The hunting, as well as the conditions under which we lived, were most arduous. We were in the midst of swamps and even had to sleep in swamps. But I never regretted these hardships, because of the opportunity to take part in an enterprise that even few members of regular polar expeditions have had occasion to witness.

The geese at this place were simply overwhelming in numbers. From afar, the flocks on the water appeared like huge islands. Our hunting party of 15 men bagged not less than 4,500 birds.

A flock of geese is surrounded by the hunters in their canoes, while on the shore the nets are spread like traps, open toward the water. The geese are slowly driven toward the nets and finally chased inside.

After the entire flock has entered, the nets are drawn tight, and then the killing begins. This is done by grasping the birds below the head, whirling them in the air, and thus breaking the neck, which causes instant death. After a few minutes of this work, a mountain of dead geese begins to pile up alongside the nets.

The entire booty is equally divided among members of the expedition. The geese are buried on the spot in the ground, or, more properly speaking, in the mud, and left to rot for several weeks, until frost sets in.

This food is used primarily for the dogs, as it is already well rotted by the time it is dug up. Still, the hunters themselves by no means disdain it; to the native appetite there is nothing very objectionable in food that is tainted.

I, too, was offered my share of the common haul, but refused it, merely stipulating my right to ten live birds. To

these I tied letters, prepared beforehand, in several languages, and addressed to my relatives in Moscow. I hoped in this way to be able to send word about myself, when the geese would return to warm regions and would, perhaps, fall into the hands of some hunter. Unfortunately, as I found out afterward, none of my letters ever reached its destination.

Our homeward journey was even more difficult. We were forced to paddle against the current, and, as if for spite, we were faced all the time by a strong wind which hindered our progress.

Nevertheless, I came through the experience with honor, for I was the first to get back to Russkoe Ustye. I considered this a matter of personal pride, and for the feat was complimented by the natives. "Thou," my companions said to me, "hast shown thyself a regular *mushik!*" (peasant.)

I was very proud of this praise.

On the return trip I had occasion to see also another kind of hunting. We were looking for mammoth ivory, which has been buried for centuries, along the washed-away banks of the seashore. We were fortunate to find a tusk weighing more than 100 pounds.

Hunting for mammoth ivory in the northernmost parts of Siberia is a regular business. In the past century the yield has been estimated at from 20 to 30 tons.

Our expedition lasted about a month. All this time I lived in the closest daily contact with my fellow-hunters, and this enabled me to appreciate even more fully how backward is the spiritual world in which these people live. Their religious creed is a peculiar hodgepodge of shamanism, paganism, and Christianity.

AN ATTEMPT TO ESCAPE

Notwithstanding my interest in this curious, strange world in which I was compelled to live, I felt the solitude, and complete isolation from civilization oppressed me beyond endurance. After more than a year at Russkoe Ustye I made an attempt to escape.

I provided myself with reindeer, a sledge, and a complete traveling outfit. I asked questions of travelers about the route and made numerous friends among the natives. Finally I decided to flee in an easterly direction, toward the limitless Chukots tundra, and across the Kolyma River to Cape Dezhneva (East Cape), at the extremity of northeastern Siberia. There I intended to cross the frozen Bering Strait to Alaska, and thence on to the United States.

This plan entailed the crossing of more than a thousand miles of uninhabited wilderness. I had permission to move freely within the boundaries of the district of Verkhoyansk, in the Territory of Yakutsk.* Pretending that I was going to Verkhoyansk, I started east and reached the first camp of the Chukchi, with whose aid I planned to continue my flight; but alas! One of the men at once recognized me, for he had already heard about me from his friends who passed through his camp.

It appears that my fame had spread all over the tundra. I was too strange a phenomenon to escape notice. I was unable to explain why I wanted to pass farther to the east, across the Kolyma, and so was compelled to turn back in the direction of Verkhoyansk.

And in Verkhoyansk the police authorities were waiting.

The remaining three years of my exile were spent at the tiny settlement of Bulun, on the lower Lena, where a steamer from Yakutsk calls twice during the summer, on account of the fine fishing in this part of the world, and in winter the mail arrives once every two months. At Bulun I no longer felt so completely cut off from civilization, and for this reason life there was not so interesting as at Russkoe Ustye.

Upon my return to Russia after my banishment I published several small books dealing with this region.

In the interest of science, it would seem of importance to have serious study made of this part of the world. It is instructive to know just how the struggle for existence is carried on by men whom fate has driven to the farthest limits where human life is possible.

*There are five districts in this territory: Verkhoyansk, in the northern section, is the largest, with an area greater than that of France.

The home chef seldom makes a soup like this!

We never relax, our skill we tax
To win your admiration.
Each soup we blend and proudly send
Builds Campbell's reputation!

Marketing for fifteen different vegetables, all of which must be the best; selecting just the choice kind of beef that makes the most invigorating broth; purchasing the cereals, the fresh herbs and the various seasonings that go to make the ideal vegetable soup; preparing and blending all of these—thirty-two ingredients—in their exact proportions.

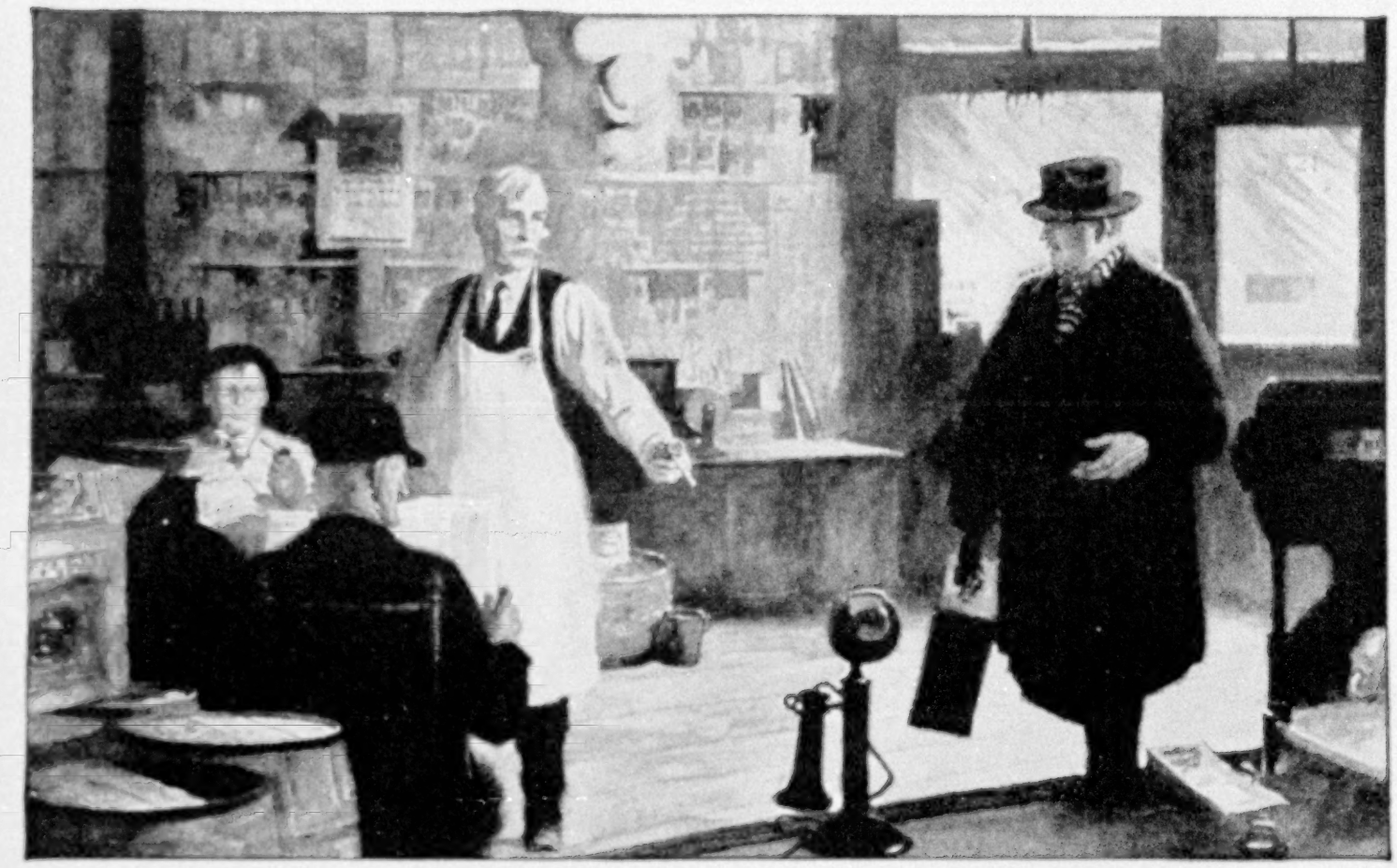
This is a task that even the most skilled home chef seldom has the time to do.

Yet this is exactly what Campbell's chefs constantly do in preparing Vegetable Soup for the best tables throughout the land.

Enjoy Vegetable Soup often. Don't deny yourself its delicious flavor and its substantial nourishment because "it's hard to make." Serve Campbell's.

21 kinds

12 cents a can



The People's Telephone

The telephone knows no favorites. It does the bidding of the country store and of the city bank. It is found in the ranch house kitchen and in the drawing-room of the city mansion. Its wires penetrate the northern forest, stretch across the prairie, are tunneled under city streets.

The telephone knows no favorites. Its service to all the people is of the same high standard—the Bell System standard. Twenty-four hours a day it carries the voices of all. For the benefit of all, the long-distance circuits are kept in tune. Numberless discoveries and improvements developed by the Bell System have made the telephone more useful for all the people. In America, all can afford the telephone, for Bell System service is the cheapest, as well as the best, in the world.

The telephone knows no favorites. It is not owned in any one locality or by any particular group of men. It is owned by 350,000 stockholders, who represent a cross-section of the thrift of the whole country. The owners of the telephone are those it serves.

In America to-day the 15,000,000 telephones of the Bell System contribute to the security, happiness and efficiency of all the people.

AMERICAN TELEPHONE AND TELEGRAPH COMPANY

AND ASSOCIATED COMPANIES

BELL SYSTEM

One Policy, One System, Universal Service

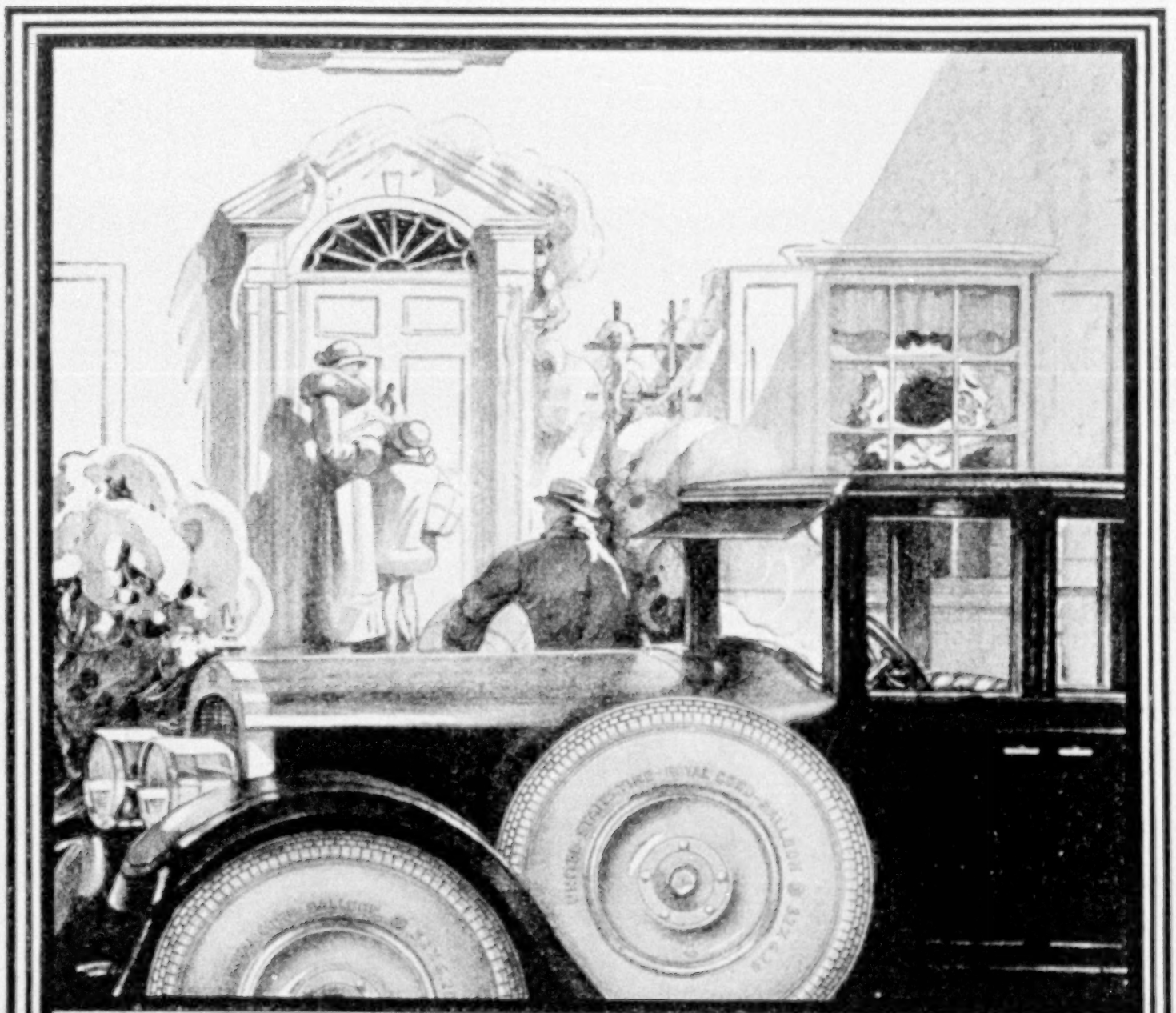
What they want . . . . *through coupons*

With the coupons of well chosen bonds they can do what they most wish — purchase something they really want, or deposit them in the bank. A coupon from a high-grade bond is itself an object lesson in the results of thrift and sound investment.

THE NATIONAL CITY COMPANY

National City Bank Building, New York

BONDS SHORT TERM NOTES ACCEPTANCES



U.S. Royal Cord Balloon Tires

Built of Latex-treated Web-Cord

NOT the least of the advantages of U. S. Royal Cord Balloon Tires is the added traction and safety they provide for winter driving.

In snow—the wide, flat surface on the road makes them ideal "snow shoes".

On ice—the greater area of road contact plus a scientifically designed non-skid tread and perfect balance provides additional protection against skidding.

Over rough, frozen roads—the flexibility of the Latex-treated Web-Cord carcass saves them from damage, while the additional cushioning protects the mechanism of the car and its occupants.

Watch the cars equipped with U. S. Royal Cord Balloon Tires this winter.

U. S. Royal Cord Balloon Tires are made for 20, 21 and 22 inch rims.

U. S. Royal Cord Balloon-Type Tires for the larger wheels and rims on cars not built for full-size Balloon Tires.

As to the right size for your car see the nearest U. S. Tire Sales and Service Station.

Trade Mark

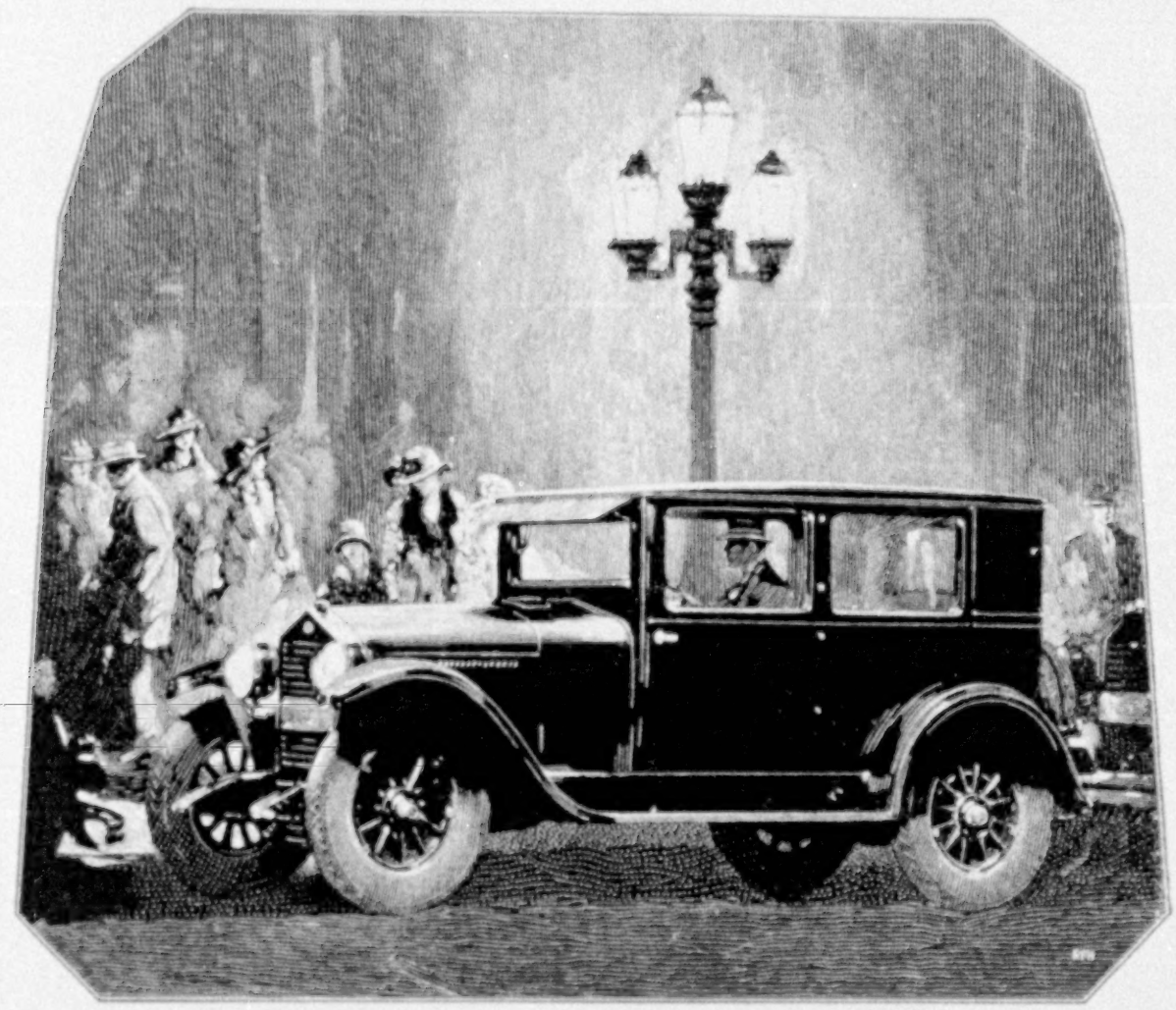
United States Rubber Company

UNITED STATES TIRES ARE GOOD TIRES

This ESSEX Six $945

Freight and Tax Extra

With Vibrationless Motor, Long Life and Balloon Tires



Why Hudson and Essex Outsell All Rivals

Still Another Reason

From The Wall Street Journal

Hudson Motor Car Co.'s recent statement that its sales of cars during the first seven and one-half months of 1924 were in excess of total business during the whole of 1923 calls attention to the exceptional position of this company, both as manufacturer and merchandiser. In view of the conditions which have beset nearly every producer during the past four months, this record of 95,000 cars in seven and one-half months this year against 88,000 cars in all of 1923 is entitled to more than ordinary notice.

Continuing personnel is another important factor in Hudson's remarkable showing. The same officials who "put Hudson over" when it was a small affair are still at the helm. There is a wealth of talent within the Hudson organization of which the public hears but little, which seems content to saw wood year in and year out, and to successfully evade the spotlight of personal publicity.

It is not merely because the Coach exclusively gives "Closed Car Comforts at Open Car Cost."

It is because both Hudson and Essex offer the most astounding value in genuine car PERFORMANCE and RELIABILITY.

It is because they have vibrationless motors —exclusive to them because they are built on the Super-Six principle.

More than 250,000 owners know their enduring value.

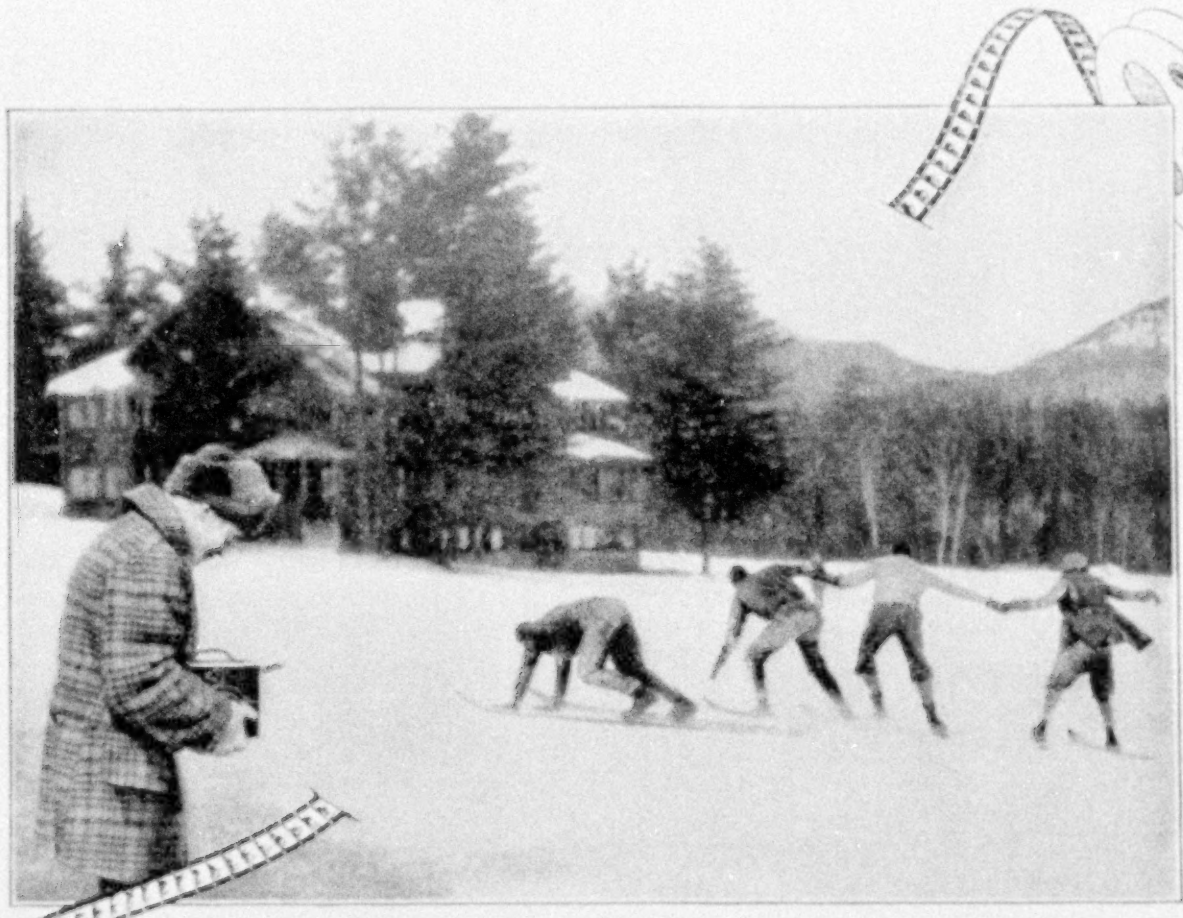
That is why they outsell all rivals—and why the Coach is the largest selling 6-cylinder closed car in the world.

An examination will convince you of quality not obtainable elsewhere within hundreds of dollars of these prices.

In Quality Hudson and Essex Are Alike

HUDSON Super-Six COACH $1395

Freight and Tax Extra



With the Ciné-Kodak you press the button; the motor cranks the camera

Movies of your Merry Christmas

IT'S all easy with a Ciné-Kodak, and there's an unusual chance for movies now. Coasting, skiing, skating—the tang of winter speeds up the sports of winter. There's action galore at holiday time, and that's what you want for the screen.

From the "spill" on the toboggan slide to the fancy skaters at the rink, press the button and you're making a movie of it; turn the switch on your Kodascope and you're showing it home on the screen.

Movies you make yourself aren't all the story either. Through Kodascope Libraries, Inc., professional releases with such stars as Douglas Fairbanks, Charlie Chaplin and Norma Talmadge may be secured at a modest rental for home projection on your own screen.

Ciné-Kodak booklet and full information by mail, on request

Eastman Kodak Company, Rochester, N.Y., *The Kodak City*

CHRYSLER

Where Chrysler Sales Are Coming From

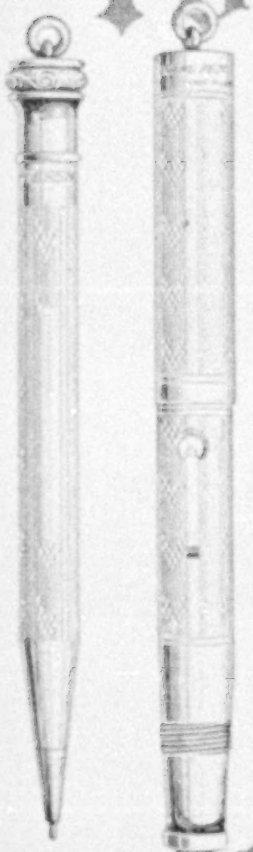
There has been much discussion, of course, concerning the unprecedented sales of the Chrysler. No car of quality has ever made such a success in the same space of time. Naturally there has been a great deal of speculation as to where these sales came from. That question can be quickly answered. The Chrysler has made a market which is all its own. Its outstanding qualities are universal in their appeal. *Everyone* delights in the Chrysler combination of dashing appearance and dashing performance. Everyone recognizes at once how unnecessarily high and unwieldy other cars seem when you look up at them from the comfortable seats of a Chrysler. The Chrysler has invaded the highest priced division in every city in the country. Why not? The contrast in conservation of space, weight and height, the delightful ease of handling and parking, the cradling comfort both of riding and driving—these things are too pronounced to be overlooked by one who has driven more cumbersome cars. So the Chrysler invades the division of highest price—and makes equally striking appeal to the division below it and the next and the next. There isn't an unnecessary ounce or inch in the Chrysler—nothing but a thoroughbred utility throughout which has revised public conception of what constitutes sound motor car investment. The Chrysler market is a market made up of people who instantly discard the past when the present offers them something better. And that means—of course—all America.

CHRYSLER MOTOR CORPORATION, DETROIT, MICHIGAN
Division of Maxwell Motor Corporation
MAXWELL-CHRYSLER MOTOR CO. OF CANADA, LTD. WINDSOR, ONT.

SIX

XUM

for Christmas



This is the first Christmas for the new, perfected Wahl Eversharp Pencil, the ultimate product of modern mechanical skill and the jeweler's art in pencil making.

Companion to Eversharp is the Wahl All-Metal Pen with its advantages of light weight, strength, fine balance, perfect gold, iridium-tipped point—and beauty.

Never before has it been possible to give such delightfully flawless writing equipment—which not only *is* a real gift but *looks* its part.

The Wahl Eversharp and the Wahl Pen will carry cheer into any home—will bear a rich message of Christmas sentiment to those hard-to-please persons who literally have everything, as well as those to whom every gift is precious. For Wahl value and utility are universally recognized.

Cased in a beautiful gift box, the Wahl Pen or Eversharp, or a matched set, is a delight to the eye. The distinctiveness of appearance but forecasts the service and pleasure they will bring.

Made in the U. S. A. by THE WAHL COMPANY, Chicago
Canadian Factory, THE WAHL COMPANY, Ltd., Toronto
Mfrs. of the Wahl Eversharp and the Wahl All-Metal Fountain Pen

Prices to suit every purse and situation
Eversharps—$1.00 to $45.00
Wahl Pens—all-metal, gold or silver—$5.00 to $55.00
Matched sets of pen and pencil $6.50 to $100.00
Complete assortments at dealers everywhere

The New WAHL EVERSHARP & WAHL PEN
PERFECTED

DODGE BROTHERS

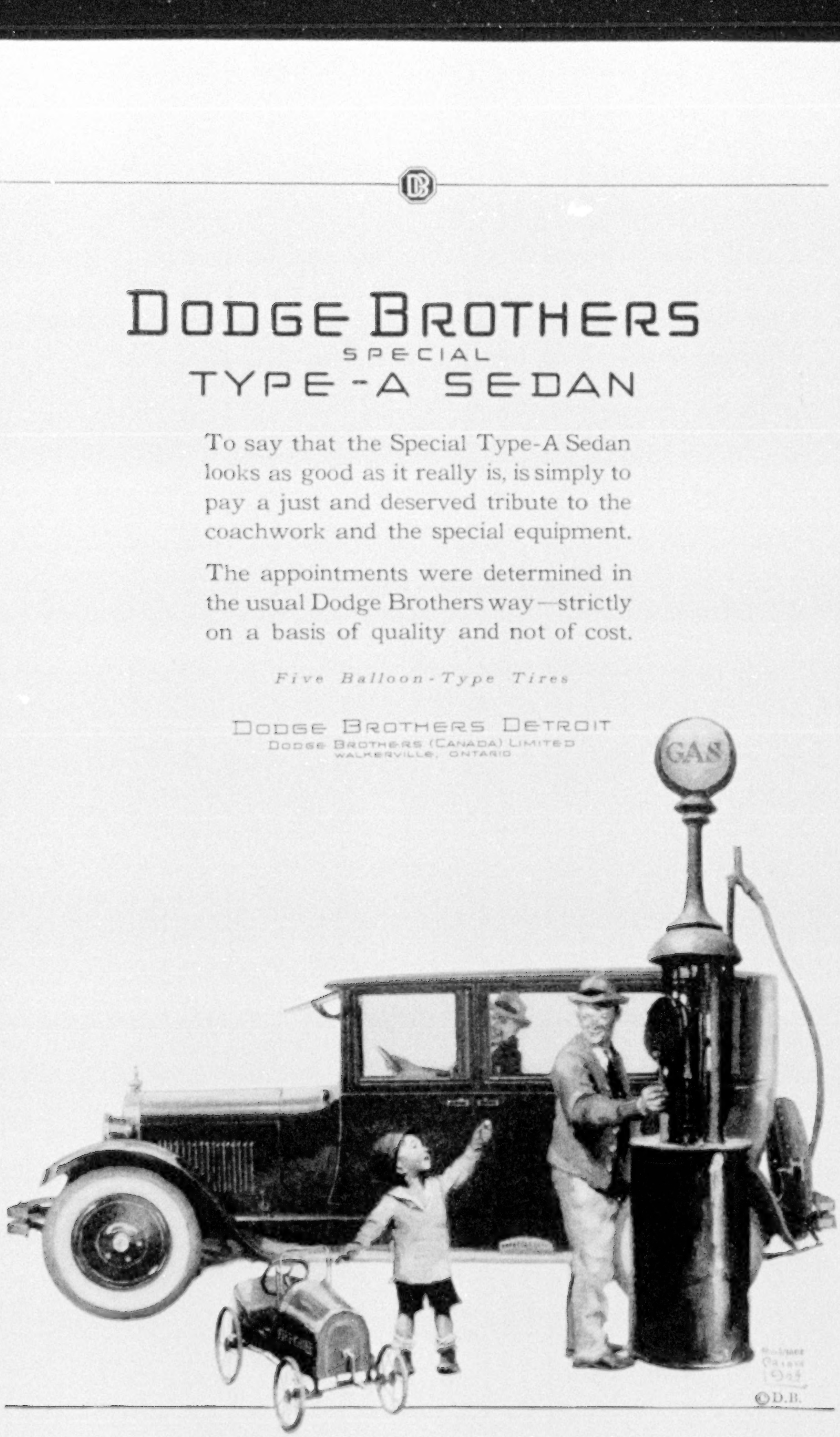
SPECIAL
TYPE-A SEDAN

To say that the Special Type-A Sedan looks as good as it really is, is simply to pay a just and deserved tribute to the coachwork and the special equipment.

The appointments were determined in the usual Dodge Brothers way—strictly on a basis of quality and not of cost.

Five Balloon-Type Tires

DODGE BROTHERS DETROIT
DODGE BROTHERS (CANADA) LIMITED
WALKERVILLE, ONTARIO



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"I would rather see our boy a cripple!"

Probably the greatest task you will ever face is guarding and guiding your boy through the dangerous years of adolescence.

Think what your boy must face. His imagination is at white heat. His energy is prodigious. Adventure invites him. The glamor of the spectacular and untried is seductive. Other boys have met these temptations, wavered and fallen. You have heard of their disgrace. Involuntarily the words have sprung to your lips—"I'd rather see our boy a cripple than befouled like that." And you have resolved to do everything in your power to prevent it.

Thousands of parents, facing the same situation, seeking a companion to help their boys through this trying period of life, have found THE AMERICAN BOY—the magazine that has been chum, guide, counsellor, instructor and friend to America's boyhood for more than a quarter of a century.

Your boy wants and needs THE AMERICAN BOY He needs its companionship—its leadership, its stimulus to sleeping capacities. He wants its corking stories, replete with thrilling adventures in the world he must meet and grapple.

This Christmas give your boy a year's subscription to THE AMERICAN BOY. Sign and send the coupon below. Send no money. He will receive the beautiful current issue Watch him devour it. Read it yourself A bill for $2.00, covering a year's subscription, will be sent you later, unless you notify us to the contrary within ten days.

$2.00 a year by mail. 20 cents a copy at news-stands

The American Boy

"The Biggest, Brightest Boys' Magazine for Boys in All the World"

THE SPRAGUE PUBLISHING CO.
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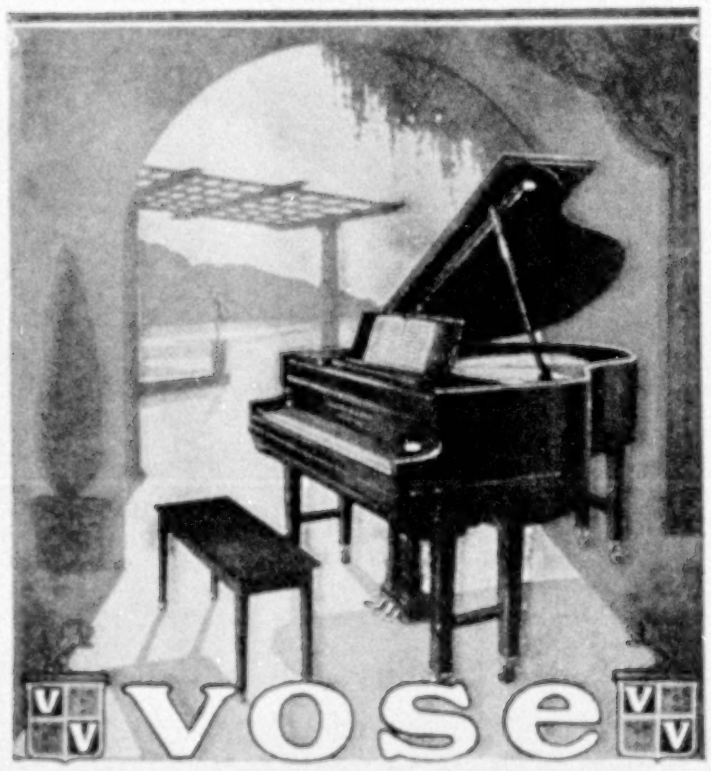

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brings into your home the art of the world's greatest pianists, with all their subtlety of touch and expression.

Although the exquisite tone of the Vose is world-famous, the Vose price is moderate.

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Enclose your professional card or letterhead for our special proposition

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(Largest Exclusive Violin House)
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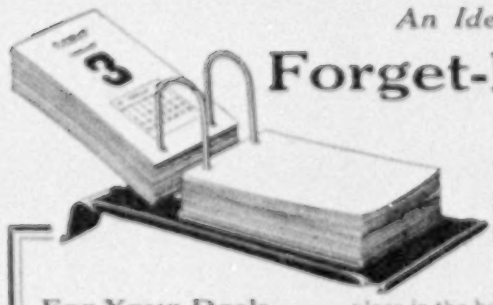
An Ideal Gift



Forget-Me-Not

REMINDER CALENDAR

Spares Embarrassment

For Your Desk
Dressing Table
Telephone Stand

An artistic ornament worthy of a place in the best appointed office or home. Stand in solid brass. Pad printed in rich brown on India paper with gold edges.

If your dealer is unable to supply, we will send prepaid upon receipt of $2.00

The Jersey City Printing Co.
Manufacturers of the Standard Calendar
Jersey City New Jersey

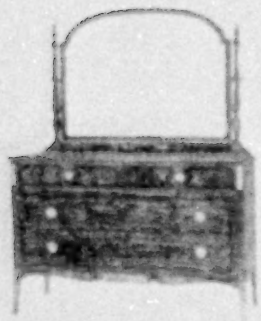
One of Nature's riddles

Till pattern in figured gumwood, the curl-lines, it seems, follow the wood accordion. Fine effects are sought for modern furniture.

Gumwood for solid parts permits ultra detail in design, construction, finish, and surface wear and

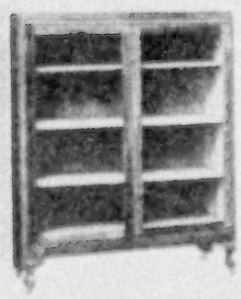
Entire base and carved end supports of American gumwood

All but the inlaid top is gumwood

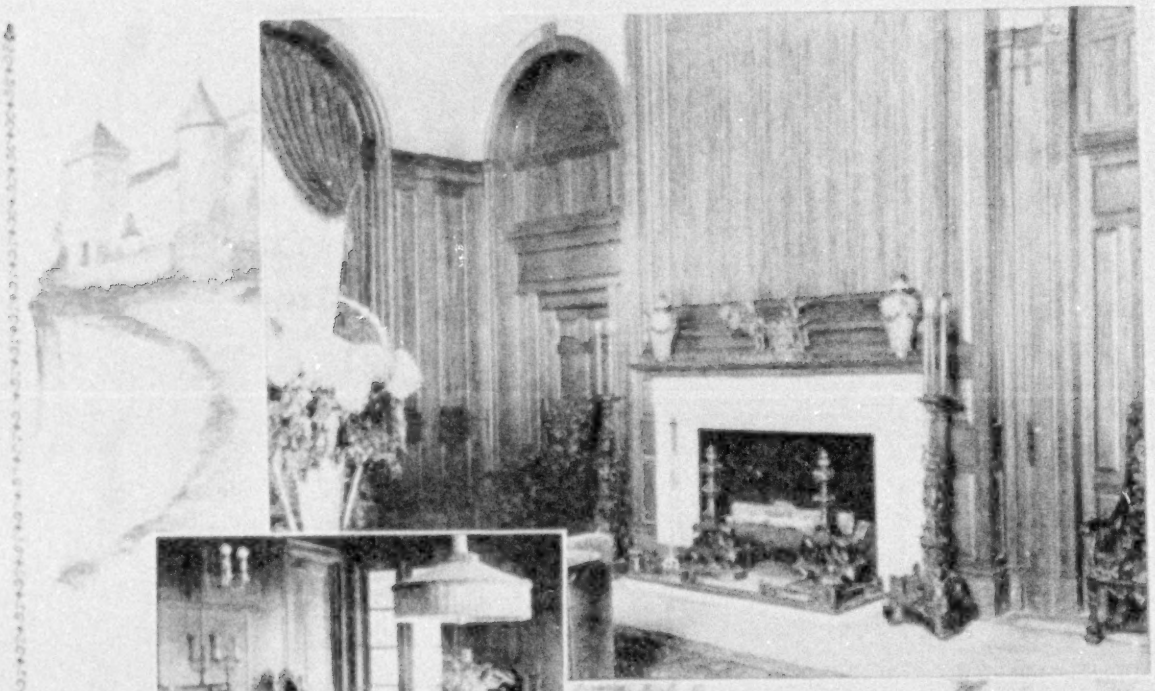


frame, legs, and mirror support, of durable and dependable gumwood

All gumwood except ornamental panels



Solid gumwood finished natural, or to harmonize with other furniture



No other cabinet hardwood yields more beautiful matched panels than figured American gumwood

Long esteemed abroad

now appreciated at home

EUROPE has always recognized the exquisite beauty of a certain American hardwood. Spain pays duty on it, as an "imported" wood of surpassing quality. Cabinetmakers of other countries have long prized its rare individuality, with a texture resembling satin.

Today America acclaims its own

American Gumwood proudly asserts its name and title to a leading place among cabinet hardwoods. Architects now panel the lobbies of many of our most pretentious hotels with richly figured panels of this native wood, finished in its own natural delicate coloring. Modern homes are enriched by the characteristic warm tones of plain gum woodwork.

Virgin stand of American Gumwood

The wood that brings good furniture within reach

Furniture manufacturers have long valued American gumwood in the construction of their best furniture; its structural qualities are proved. It readily takes a finish in harmony with other hardwoods combined with it. More actual value may be put into the design of the piece, in the artistic treatment of other woods selected for surfaces, when gumwood is used for solid parts. The utmost in design, construction, and finish is achieved, with maximum economy. Ask any furniture dealer.

Retail stores the country over offer for sale good furniture in which American gumwood is used; they so advertise it, and endorse it to the public.

If you wish more information, write The Gumwood Service Bureau, Memphis, Tennessee, who can serve you in many practical ways, without obligation

THE gumwood tree is the glory of our Southern forests. In summer, distinguished by glossy star-shaped foliage; in the fall its graceful symmetry is enhanced by masses of scarlet, orange, and yellow leaves, changing to bronze and purple

The New 1925

BUHRKE

Pronounced BURR-KEY

Golf Bag

THE ideal Christmas token for a golfing friend—the new model Burr-Key Golf Bag—

Equipped with the

IMPROVED BURR-KEY
Adjustable Handle and Metal Top

—has labor-saving features that will help to improve his game throughout 1925.

Other exclusive Burr-Key features are the Metal Bottom, Locked Pocket, Towel Clip, New Shoulder-Strap Fastener and Partition Arrangement.

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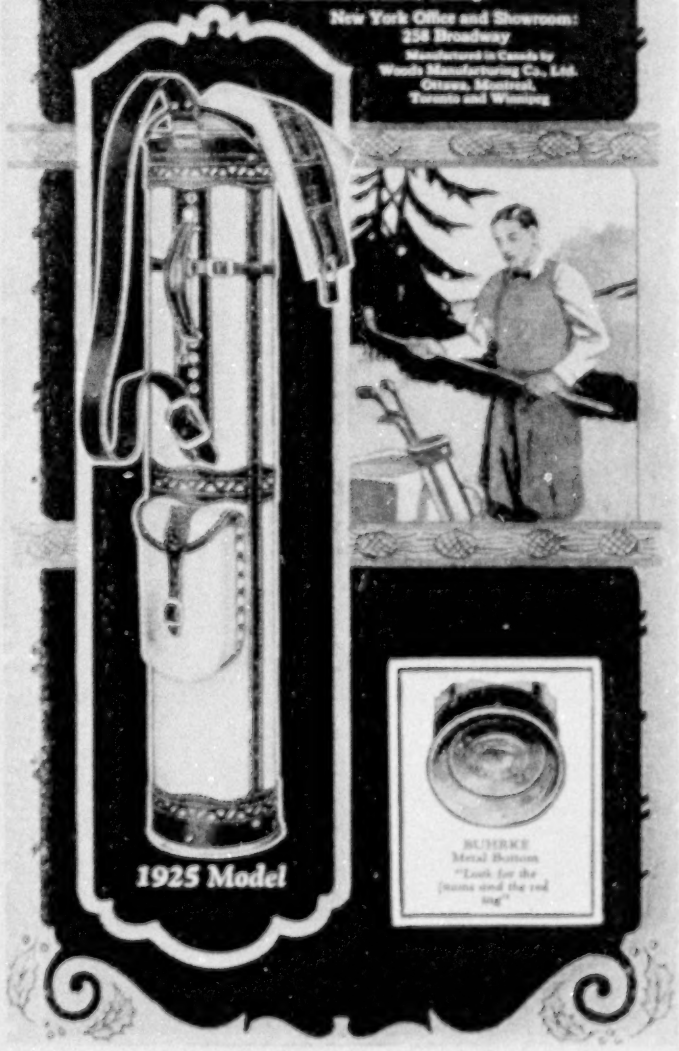

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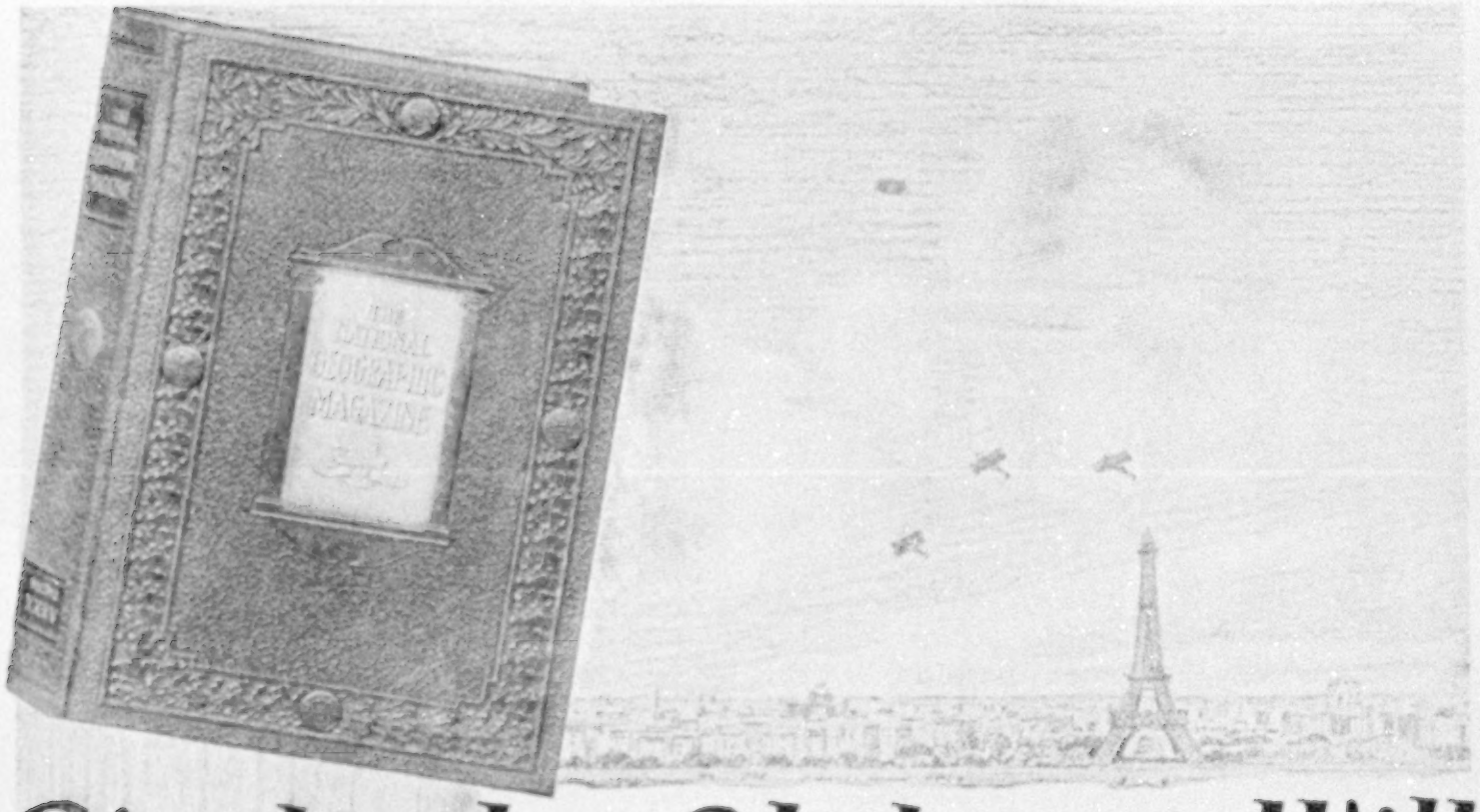

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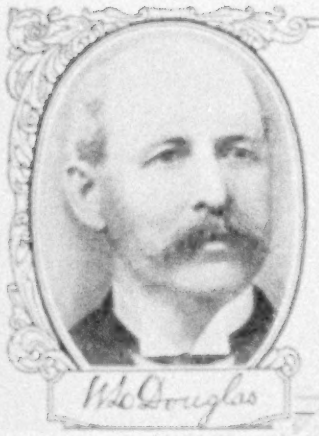

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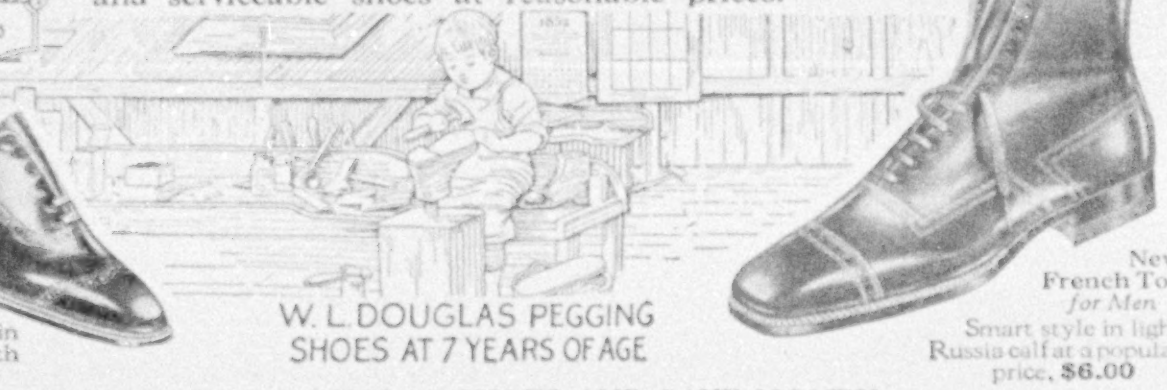

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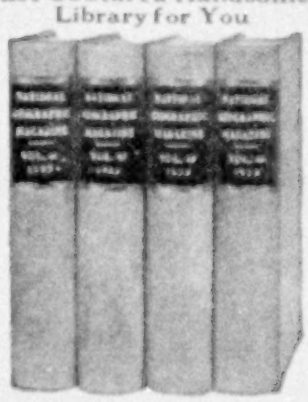

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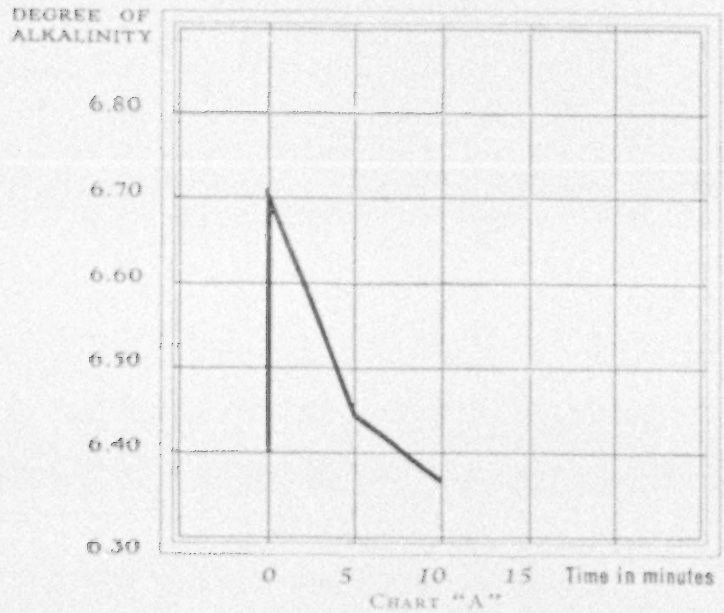

CHART "A"

Figure A shows the action on saliva of a typical soapless dentifrice. The vertical line shoots upward, indicating that alkalinity of saliva increases somewhat (or, in other words, the acidity of saliva diminishes somewhat) the instant the dentifrice is used. Then it drops back sharply, returning to normal in ten minutes.

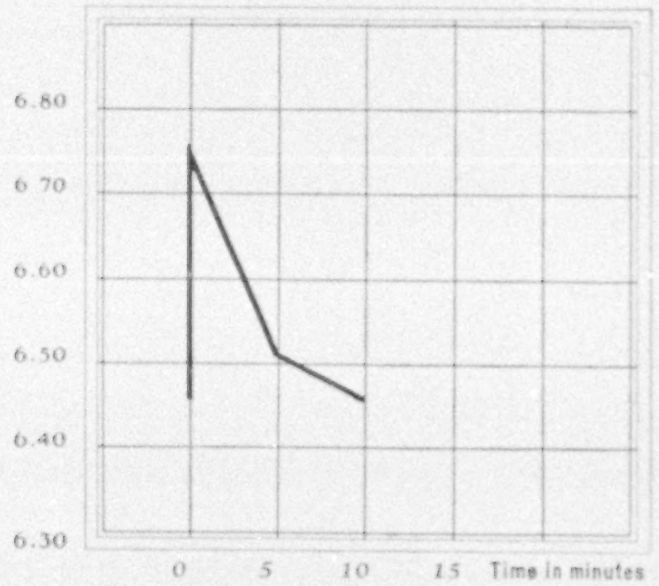

CHART "B"

Figure B shows the action on saliva of a typical soap-containing dentifrice. As in Figure A, the alkalinity increases (or, in other words, the acidity diminishes) while teeth are being brushed. As with the soapless dentifrice, however, alkalinity drops back to normal in ten minutes.

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AUTHORITIES FOR THE STATEMENTS IN THIS ADVERTISEMENT

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†*U. S. Public Health Service in its book "Good Teeth," Keep Well Series No. 13*—Your dentifrice "should not be gritty"; that would be "too hard for continuous use."

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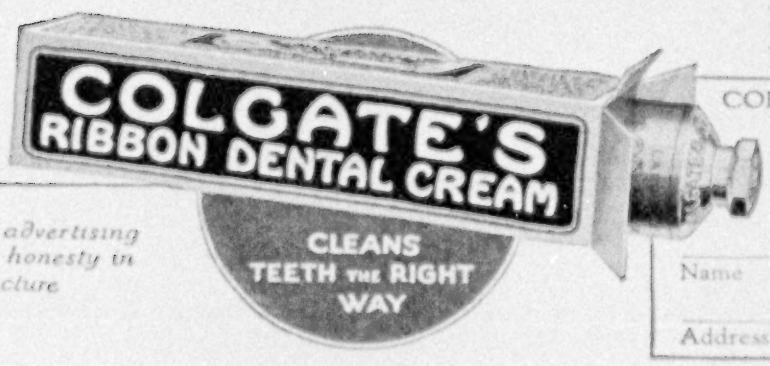

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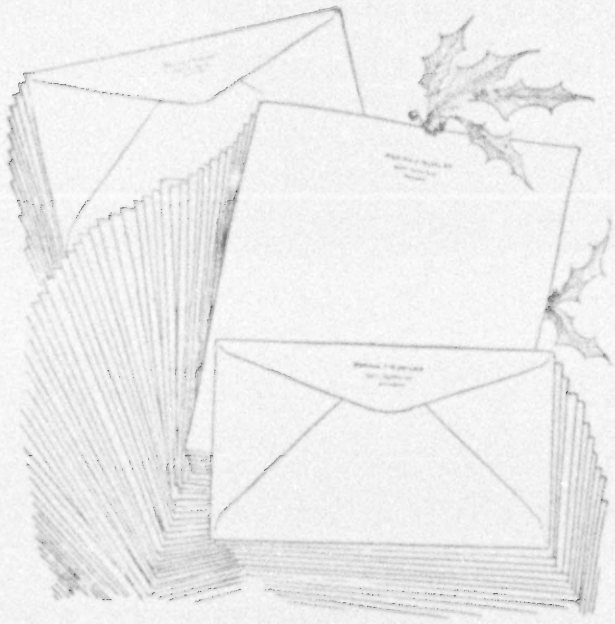

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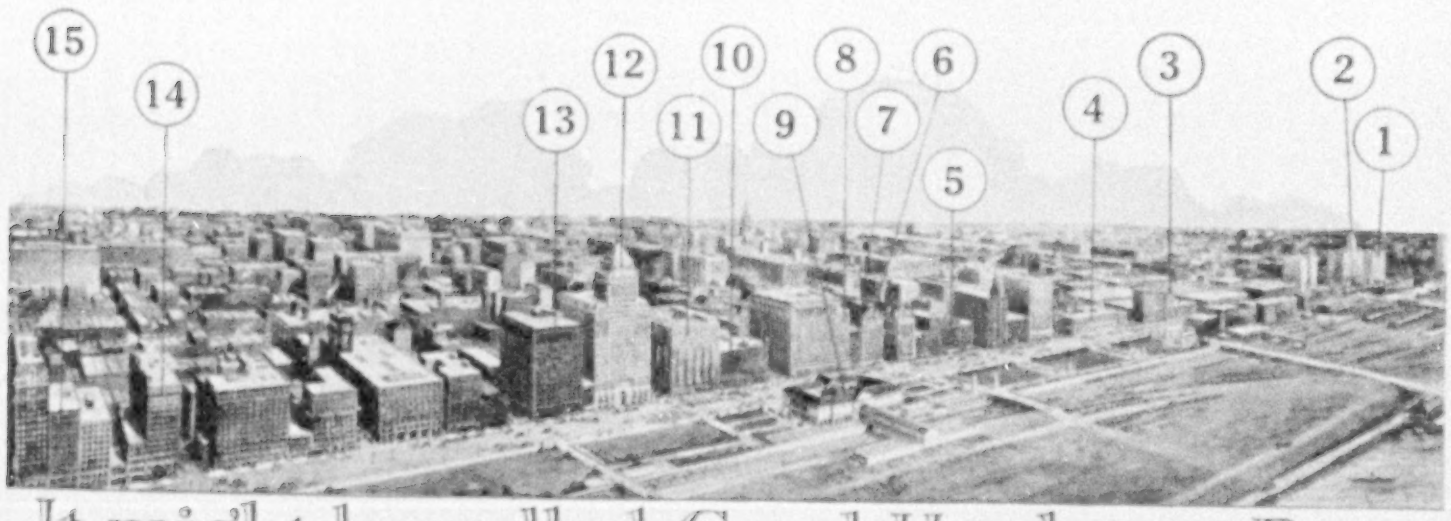

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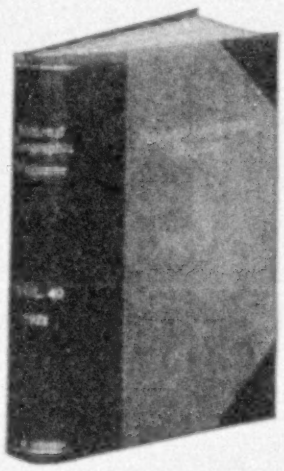

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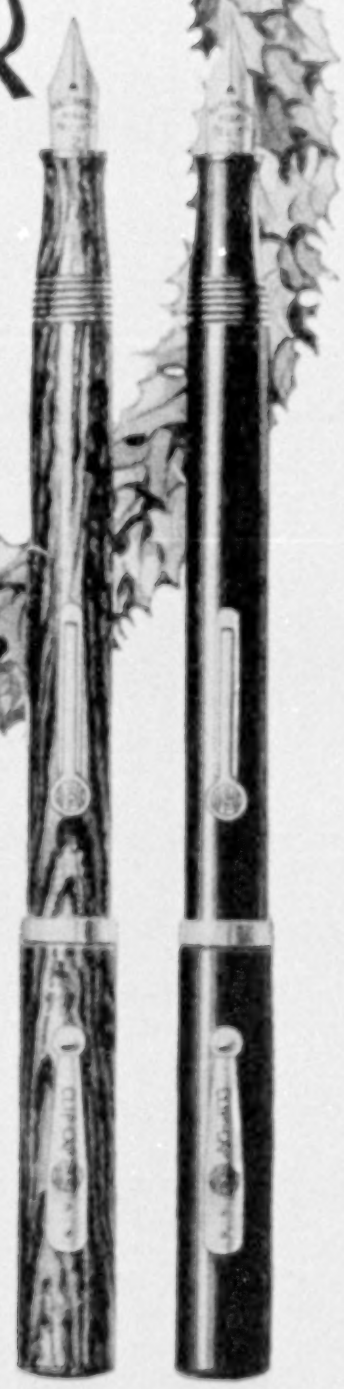

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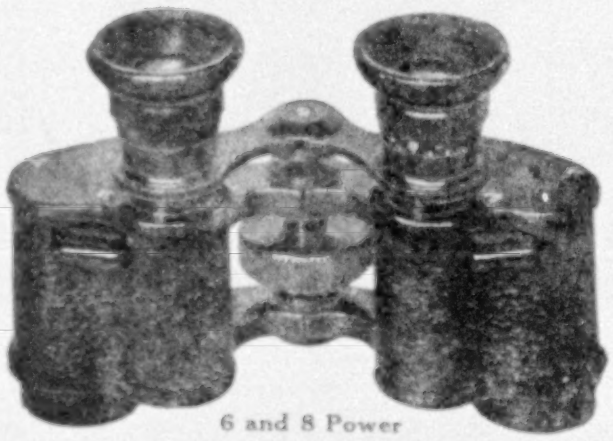

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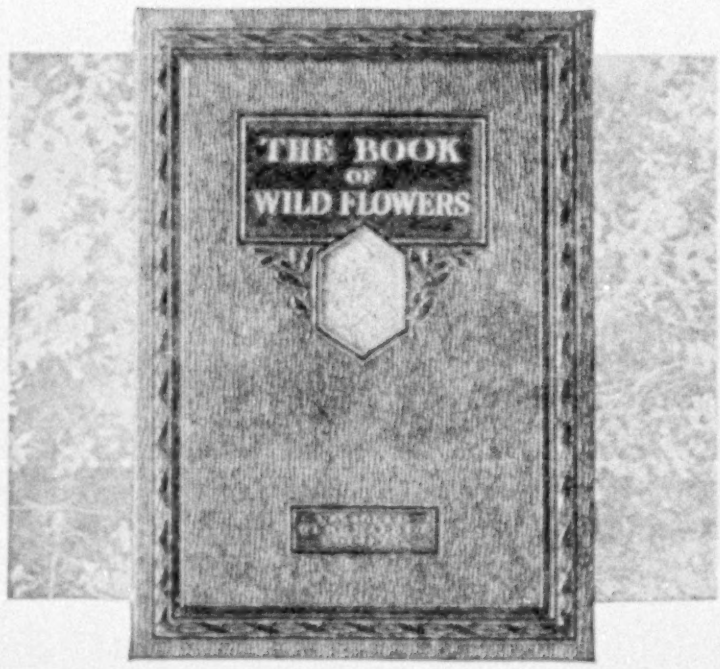

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LEAD gives to chinaware its beauty and lustre

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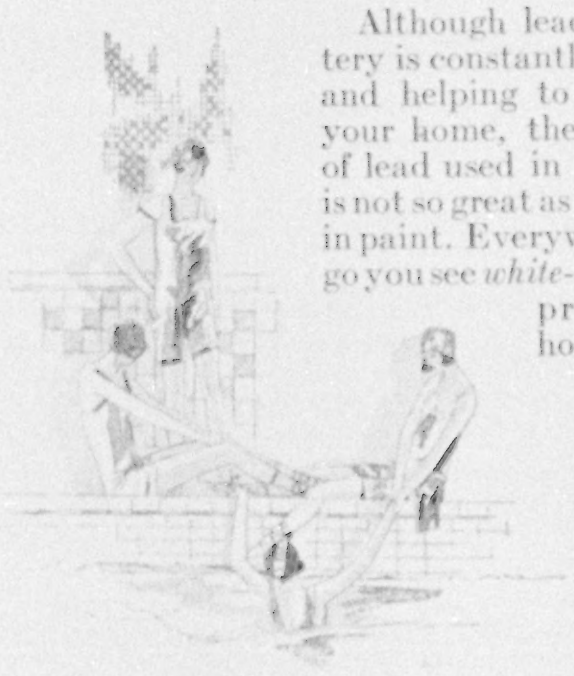
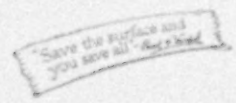
For twenty centuries pottery has been coated with lead glazes. Today lead is used in making both transparent lead glazes for fine chinaware and brilliant, glossy opaque enamel glazes put on sanitary bathroom fixtures, swimming pool, bathroom and kitchen tile and ornamental tile.

Any one of the three lead products, white-lead, red-lead or litharge, can be used in making lead glazes. Makers of fine chinaware will use, as does one manufacturer, as much as 80,000 pounds of white-lead a year and only 1,000 pounds of red-lead. Others in the industry will reverse the above figures and use many times as much red-lead as white-lead.



Although lead in pottery is constantly serving and helping to beautify your home, the tonnage of lead used in this way is not so great as that used in paint. Everywhere you go you see *white-lead paint* protecting houses from the attacks of weather. Approximately 350,000,000 pounds of white-lead are used on wooden and other non-metallic surfaces each year, to save the surface. *Red-lead paint* prevents rust from eating into and destroying iron and steel.



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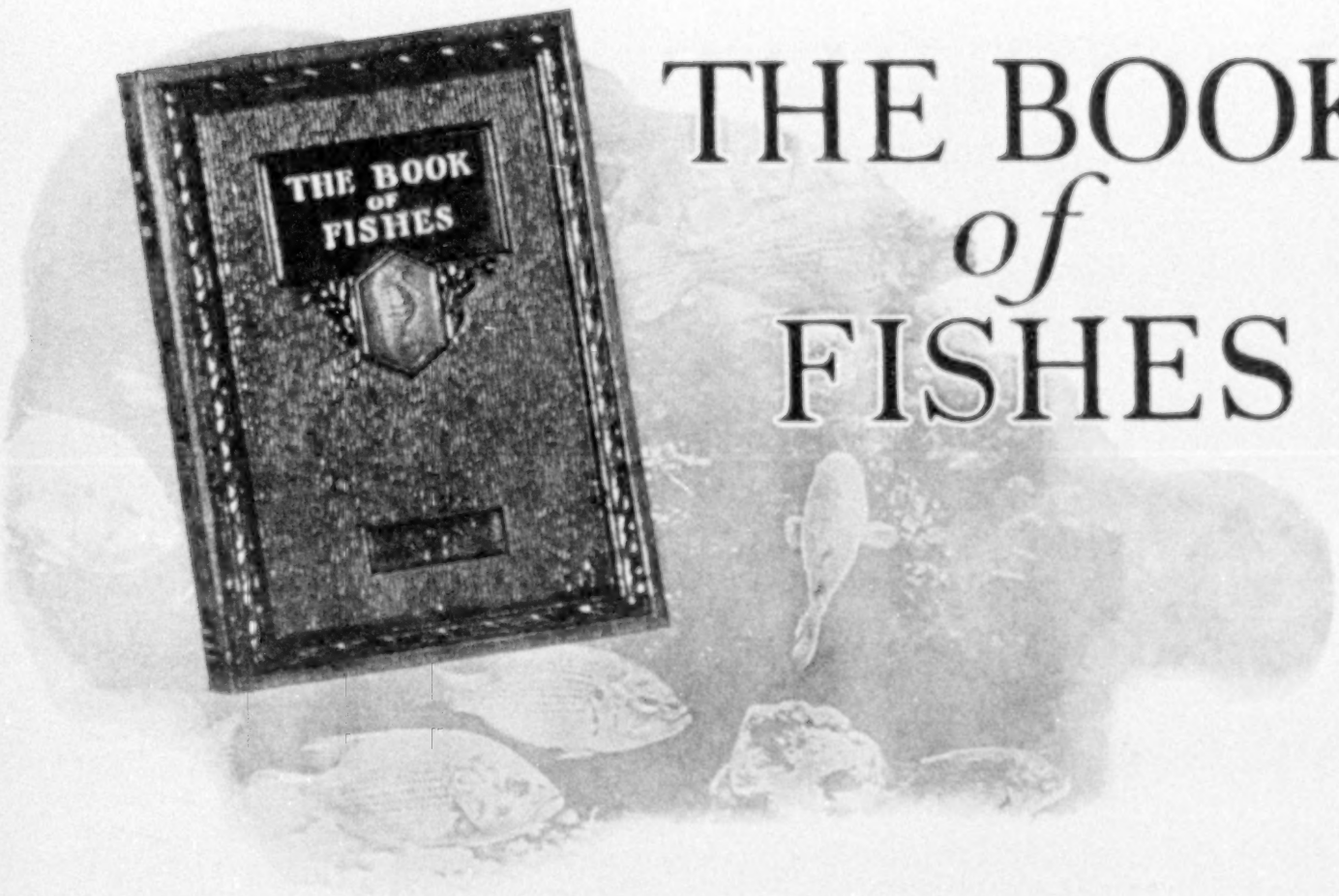

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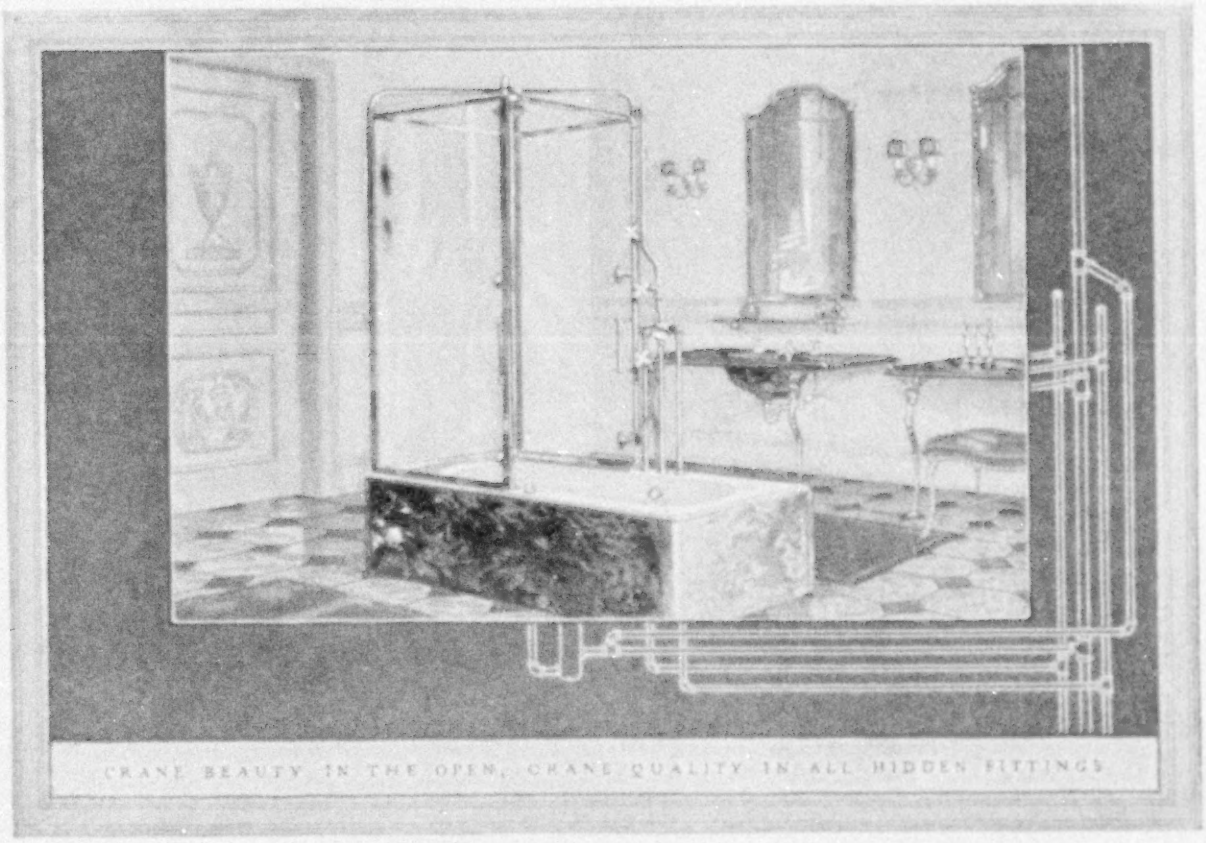

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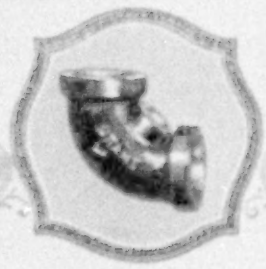

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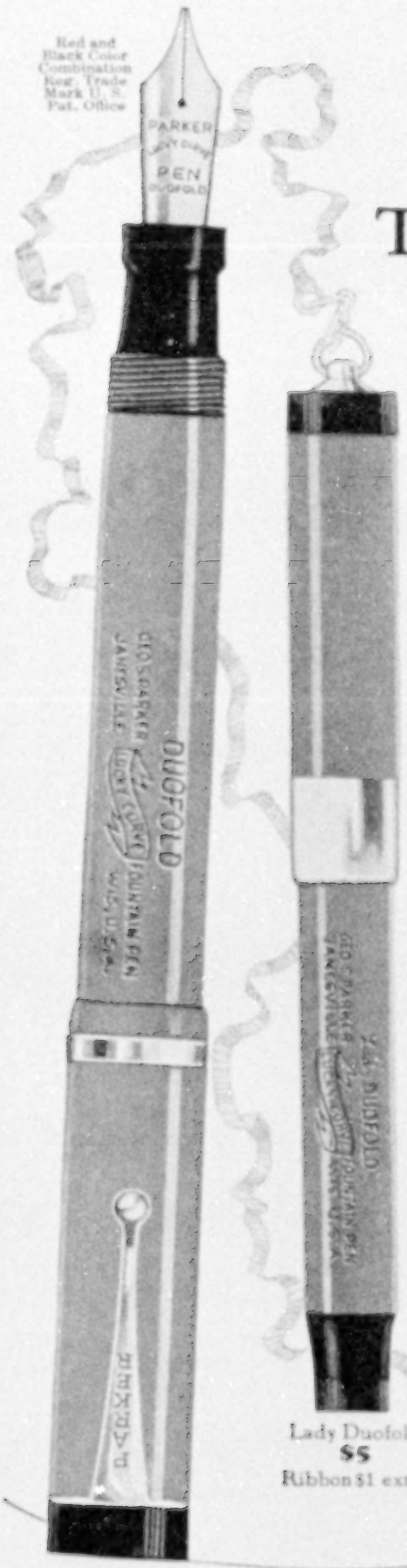

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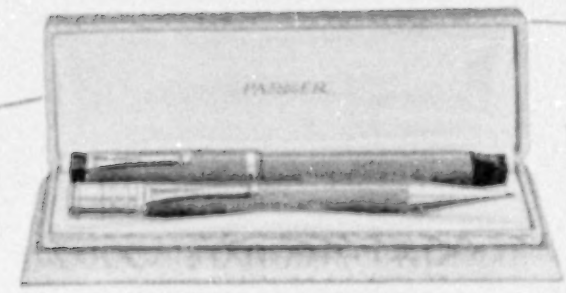

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